

Gamble, William B.
(Compiled by)
1926.

Chemistry and Manufacture of Writing and Printing Inks

A LIST OF REFERENCES IN
THE NEW YORK PUBLIC LIBRARY

COMPILED BY
WILLIAM B. GAMBLE
Chief of the Division of Science and Technology

INTRODUCTION BY
H. M. LYDENBERG
Chief Reference Librarian

New York
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NOTE

This list contains the titles of works relating to the chemistry and manufacture of writing and printing inks, owned by The New York Public Library on August 1, 1925. They are in the Reference Department of the Library, in the Central Building at Fifth Avenue and Forty-second Street.

REPRINTED JANUARY 1926
FROM THE
BULLETIN OF THE NEW YORK PUBLIC LIBRARY
OF AUGUST, SEPTEMBER, OCTOBER, 1925

PRINTED AT THE NEW YORK PUBLIC LIBRARY
form p207 [1-20-26 350]

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CHEMISTRY AND MANUFACTURE OF WRITING AND PRINTING INKS

INTRODUCTION

OF ALL the craftsmen that work on the printed book, the ink maker has received least comment and least commendation. Hundreds of volumes have been written in praise of books, and almost as many have been given to appreciation of the design of the type, to singing the praises of good paper, and to discussing the ingenuity and skill of the makers of presses. But you will be hard put to it to name off-hand a single person who has sung the praises of ink, plain, every-day printer's ink.

Books can be made without types or presses. Indeed, they have been made with them less time than without. Four centuries and a half mark the use of types for book production, and many times that number of centuries looked down on the toil of scribes who lived before Gutenberg and Koster. Books have been made without paper. Witness the thousands of parchment and velum volumes, and the hundreds of works turned out this very day in the Orient on palm leaves and similar substances. But to find a time when books could be made without ink you have to go back to the dawn of what we call civilization and pick up the clay tablets of Assyria and Babylonia.

Why this apparent neglect of ink in the anthology of books?

It is scarcely fair to say it is another case of Fothergill Finch and his sonnets to a garbage pail. There is, to be sure, little of the delight to be found in looking at black ink, as such, that one can get in studying the shapes and fancies designers have used for their various fonts and faces of letters. Presses have been drawn on for decoration, certainly the old hand presses; and quite possibly even a modern newspaper web press may have been conventionalized and worked into the decorative features of book or poster. But certainly no one has yet succeeded in using ink as anything more than a handmaiden, useful and faithful and commendable in every way, but without the graces of her sisters.

However, if little has been written in the way of glowing tributes to ink as part of the printer's world, if ink sometimes may be tempted to wonder if its sisters do not receive greater appreciation than falls to its lot, certainly a glance at the titles here listed by Mr. Gamble will show that plenty has been

written about it. Editors, and the other great who decide how the King's English shall be used, will probably refuse to permit one to speak about the "literature" of ink, but be that as it may, surely one could easily build a special library with ink as its subject. And for anyone curious about the materials and processes that make books, the titles here recorded will provide many a fruitful hour.

Why should some writing inks fade, for instance, and why should fading be so unusual with printing inks, black inks, that is to say? How have our present-day methods come down from the earlier times when men had more time, or thought they did, to make things properly? If the paper used in our books is poorer in quality than that used fifty or a hundred or four hundred years ago, how is it that the inks are not appreciably worse? Why, if black inks seem permanent, do the colored inks fade when exposed to sunlight? It is not uncommon to find writing inks that have eaten the paper they were printed on, but did anyone ever see such an attack by printer's ink? Can we get fast colors in inks with our present methods? Do our inks to-day differ radically from those of the early days of printing, and how did those early inks differ from what the scribe used in his work? If it is possible to make for writing purposes an invisible ink, has anyone tried to do the same for printing? Why in all the stories of international criminals has no one thought to use a book printed in invisible inks, while the literature of diplomatic spies bears on nearly every page a story of the use of that kind of writing ink? Are there any qualities of ink that have to be taken into consideration by the designers of printing presses, or is it such an obliging substance that the maker of the press can say to the maker of the ink, "Here is the place and the shape for the fountain, and you must adapt your ink to what I am willing to allow you"? Why is it that prices of inks have been so little affected by the war? And how do they compare with those of the past century?

Dozens of questions like these come to the mind of anyone who has ever wondered how a book is made, or who has ever cared to see what makes the book and how it grows and is translated from the mind of the author through composing room and paper mill and press room and bindery into that familiar shape with those familiar black marks on white paper we accept with so few questionings.

No one but the specialist would ever dream that so much has been written about ink, and certainly specialist and outsider, connoisseur and casual inquirer, will rejoice that this key to the literature of ink has been so admirably wrought and so conveniently put into his hand.

• THE LIST

1. **Abney**, Sir William de Wiveleslie. Light and colour. (Society of Arts. Journal, London, v. 37, 1889, p. 113-123.) **VA**

Experiments show the effect of light upon pigments.

2. **Adeline**, Jules. Les arts de reproduction vulgarisés. Paris: Quantin [1898]. 3 p.l., ix, 379 p. illus. 4°. **MDR**

See index.

3. **Alizarintinte**. (Polytechnisches Centralblatt, Leipzig, N. F. Jahrg. 10, 1856, p. 637.) **VA**

4. **Alton**, Robert. The examination and testing of printing inks. (British printer, London, v. 31, 1918, p. 21.) **†*IPA**

5. **American Chemical Society**. Report of the committee on occupational diseases in the chemical trades. (Journal of industrial and engineering chemistry, Easton, Penn., v. 14, 1922, p. 456-457.) **VOA**

Brief reference to ink poisoning.

6. **American encyclopædia of printing**. Edited by J. Luther Ringwalt. Philadelphia: Menamin & Ringwalt, 1871. 1 p.l., vii-xv, (1)18-512 p. illus. 4°. ***IPB (Ringwalt)**

See p. 217-219 for account of manufacturing processes.

7. **Amount of ink required for different formes**. (British printer, London, v. 26, 1917, p. 253.) **†*IPA**

8. **Andés**, Louis Edgar. Oel- und Buchdruckfarben. Praktisches Handbuch für Firniss- und Farbenfabrikanten... Wien: A. Hartleben, 1889. viii, 271 p. illus. 12°. (Hartleben's chemisch-technische Bibliothek. Bd. 169.) **VOP**

9. — Oil colours and printers' inks; a practical handbook. Translated from the German. Second English edition, revised and enlarged by H. B. Stocks. London: Scott, Greenwood & Son (E. Greenwood), 1918. xv, 220 p. illus. 8°. **VOP**

10. — Praktisches Rezeptbuch für die gesamte Lack- und Farben-Industrie... Wien: A. Hartleben, 1904. iii, 432 p. 12°. (A. Hartleben's chemisch-technische Bibliothek. Bd. 271.) **VOR**

For printing inks see p. 70-74.

11. — Schreib-, Kopier- und andere Tinten. Wien: A. Hartleben, 1906. viii, 231 p. illus. 12°. (A. Hartleben's chemisch-technische Bibliothek. [Bd.] 295.) **VOPB**

12. **Andrews**, Emory Cobb. Color and its application to printing. Chicago: Inland

Printer Co. [cop. 1911.] 123 p., 24 l., 3 p.l. illus. 8°. **MDS**

Repr.: Inland printer, Chicago, v. 44, 1910, p. 846-851; v. 45, 1910, p. 47-50, 220-222, 376-378, 545-548, 709-711; v. 46, 1910-11, p. 72-74, 233-234, 388-390, 552-553, 708-709, 877-878; v. 47, 1911, p. 431-433, 559-560, 756-758, 907-908; v. 48, 1911-12, p. 396-398, **†*IPA**.

13. — Color and its distribution in printing. How to estimate ink. Chicago: Inland Printer Co. [cop. 1916.] 3 p.l., 42 p. illus. 8°. **MDS**

14. **Anfertigung einer den kräftigsten chemischen Argentien ziemlich widerstehenden schönen rothen Tinte**. (Polytechnisches Notizblatt, Mainz, Jahrg. 28, 1873, p. 272.) **VA**

See also Chemical Society, Journal, London, v. 27, 1874, p. 99, **PKA**; Dinglers polytechnisches Journal, Augsburg, Bd. 209, 1873, p. 316, **VA**.

Solution of carmine in soluble glass.

15. **Anstead**, Taylor W. Manufacture of printing inks. illus. (Chemical and metallurgical engineering, New York, v. 27, 1922, p. 304-308.) **VOA**

16. **Appelbaum**, Carl. Ueber Vanadintinte. (Dingler's polytechnisches Journal, Stuttgart, Bd. 271, Jahrg. 1889, p. 423-424.) **3-VA**

Claims that Berzelius's receipt does not produce a good ink; but substitutes his own formula.

17. **Arcana Fairfaxiana manuscripta**. A manuscript volume of apothecaries' lore and housewifery nearly three centuries old, used, and partly written by the Fairfax family. Reproduced in fac-simile of the handwritings. An introduction by George Weddell. Newcastle-on-Tyne: Mawson, Swan, & Morgan, 1890. xlviii p., 1 l., 206 p. 8°. **WTL**

See p. 4 for ink recipes.

18. **Astle**, Thomas. The origin and progress of writing, as well hieroglyphic as elementary, illustrated by engravings taken from marbles, manuscripts and charters, ancient and modern; also some account of the origin and progress of printing. London: Printed for the author, 1784. 3 p.l., (i) vi-vii, xxv, 235 p., 30 tables. sq. f°. **†*IC**

Author was Keeper of Records in the Tower of London.

Brief mention of ancient writing inks.

19. **Attfield**. Copying ink for readily transferring letters without a press. (Chemical news, London, v. 44, 1881, p. 141.) **PKA**

Abstract in Chemical Society. Journal, Abstracts, London, v. 42, 1882, p. 128, **PKA**.

20. **Aust**, Franz A. Ein veränderlicher grosser Widerstand aus Tusche auf Papier.

(A variable high resistance of India ink on paper.) illus. (Physikalische Zeitschrift, Leipzig, Jahrg. 12, 1911, p. 732-733.) **PAA**
Abstracts in *Science abstracts*, London, v. 14, section A, 1911, p. 526, *PAA*; *Physical review*, Lancaster, Penn., v. 32, 1911, p. 256, *PAA*.

21. **Autographic inks.** (Scientific American supplement, New York, v. 58, 1904, p. 24187.) **VA**

22. **Aweng, E. A.** Sur le dosage du tannin. (Revue internationale des falsifications, Amsterdam, année 11, 1898, p. 29-30.)
†† **VTD**

23. **Axle-grease in ink.** (Inland printer, Chicago, v. 43, 1909, p. 405-406.) †* **IPA**
Use as a reducer.

24. **B., P. V.** Glossy black show-card ink. (Druggists circular, New York, v. 62, 1918, p. 122.) † **WTA**

25. **Background inks for map work.** (Inland printer, Chicago, v. 32, 1904, p. 562.)
†* **IPA**

26. **Bad purple ink spoils a job of printing.** (Inland printer, Chicago, v. 24, 1899, p. 255.) †* **IPA**

27. **Baddeley, William.** Stephen's improved fountain inks. illus. (Mechanics' magazine, London, v. 25, 1836, p. 229-231.) 3-**VA**

28. **Balard.** Rapport sur le concours pour la découverte d'une encre n'attaquant pas les plumes métalliques. (Société d'encouragement pour l'industrie nationale. Bulletin, Paris, série 2, tome 19, 1872, p. 236-242.) **VA**
See also *Chemical news*, London, v. 25, 1872, p. 300, *PKA*; *Dingler's polytechnisches Journal*, Augsburg, Bd. 207, 1873, p. 430, 3-**VA**; *Polytechnisches Centralblatt*, Leipzig, N. F. Jahrg. 27, 1873, p. 67, *VA*.

Account of excellent ink submitted by Couper and Collins which, however, did not win the prize offered by the society.

29. **Bardet di Villanova, Federico.** Istruzioni su i tre principali metodi dell' arte litografica... Napoli: [Reale tipografia della guerra,] 1830. 1 p.l., 157(1) p., 3 pl. 8°.
MDP

30. **Barnett, Gilbert.** The storage of printing ink. (British printer, London, v. 27. 1914-15, p. 279.) †* **IPA**

31. **Baskerville, Charles, and R. STEVENSON.** Recovering newsprint. (Journal of industrial & engineering chemistry, Easton, Penn., v. 13, 1921, p. 213-214.) **VOA**

32. **Bate, John.** The mysteries of nature and art. In four several parts. The first, of water-works. The second, of fier-works. The third, of drawing, colouring, limming, paynting, engraving, and etching. The fourth, of sundry experiments. [London:] Printed for Andrew Crooke, 1654. 3 p.l., (1)6-221(1) p., 4 l., 1 pl. illus. 12° in fours.
VBA

Title-page for each part.

Recipes, p. 214.

33. **Bauer, O., and WERNER MECKLENBURG.** Über die Einwirkung von Tinten auf metallisches Eisen. illus. (Prussia. — Materialprüfungsamt zu Berlin-Lichterfelde West. Mitteilungen, Berlin, Jahrg. 37, 1919, p. 63-84, 322-334.) **VA**

Abstract in *Chemical abstracts*, Easton, Penn., v. 15, 1921, p. 2823, *PKA*.

34. **Beacall, Thomas, and others.** Dyestuffs & coal-tar products; their chemistry, manufacture, and application, including chapters on modern inks... London: Crosby Lockwood & Son, 1915. vii, 156 p. illus. 4°. (Manuals of chemical technology. [v.] 1.)
VOR

Reprinted, with additions, from Geoffrey Martin's *Industrial and manufacturing chemistry*.

35. **Beilstein, Friedrich Konrad.** Ellagsäure. (In his: Handbuch der organischen Chemie. Ergänzungsband zur dritte Auflage. Bd. 2, Hamburg, 1903, p. 1221.) **POB**

36. **Beloe, William.** Anecdotes of literature and scarce books. London: Printed for F. C. and J. Rivington, 1807-12. 6 v. 8°.
* **GBH**

See v. 4, p. 419-422 for account of inks used by early printers.

Bennett, H. G., joint author. See *Proc-tor, H. R., and H. G. BENNETT*.

37. **Bereitung der sogenannten Alizarin-Tinte.** (Polytechnisches Notizblatt, Mainz, Jahrg. 11, 1856, p. 112.) **VA**

See also *Kunst und Gewerbe-Blatt*, München, Jahrg. 42, Bd. 34, 1856, p. 112, *VA*.

38. **Berthelot, Pierre Eugène Marcellin.** La chimie au moyen âge. Paris: Imprimerie nationale, 1893. 3 v. 4°. † **PKD**

At head of title: Histoire des sciences.

See indexes under *encre*.

39. — Collection des anciens alchimistes grecs... Paris: Georges Steinheil, 1888. 3 v. 4°. † **PKD**

See introductory volume, p. 12, for ancient recipe; p. 18, for reference to sacred ink.

40. **Berzelius, Jöns Jakob, friherre.** Lehrbuch der Chemie. Dresden und Leipzig: Arnold, 1843-48. 5 v. in 6. 5. ed. 8°.
PKL

See v. 3, p. 329 for black ink made from vanadium ammonium salts and gall apples.

41. **Bibra, Ernst, Freiherr von.** Wiederherstellung alter, unleserlich gewordener Schrift. (Journal für praktische Chemie, Leipzig, N. F. Bd. 17, 1878, p. 38-40.) **PKA**

See also *Chemical news*, London, v. 37, 1878, p. 250, *PKA*; *Chemisches Centralblatt*, Leipzig, Folge 3, Jahrg. 9, p. 256, *PKA*; Société chimique de Paris, *Bulletin*, nouv. série, tome 29, 1878, p. 333, *PKA*.

Uses a moderately concentrated solution of tannin and dries the paper at 65°.

42. **Biginelli, P.** Veri e falsi tannati di china commerciali. (La gazzetta chimica italiana, Roma, v. 37, parte 2, 1907, p. 205-226.) **PKA**

43. **Birukoff**, W. Ueber Dimethylanthragallol. (Deutsche chemische Gesellschaft. Berichte, Berlin, Jahrg. 20, 1887, p. 870-873.) **PKA**
44. **Bishop**, A. W., and others. Ueber den Oxymethylenecampher. (Liebig's Annalen der Chemie, Leipzig, Bd. 281, 1894, p. 314-398.) **PKA**
Has a bibliography.
45. **Black ink does not stick on glazed paper.** (Inland printer, Chicago, v. 31, 1903, p. 890.) **†* IPA**
Remedy suggested.
46. **Blackburn**, Douglas, and **WATHEMAN CADDELL**: The detection of forgery. A practical handbook for the use of bankers, solicitors, magistrates' clerks, and all handling suspected documents. London: C. & E. Layton, 1909. 2 p.l., (1)6-77(1) p. illus. 8°. *** ICL**
See chapter 10.
47. **Blagden**, Charles. Some observations on ancient inks, with the proposal of a new method of recovering the legibility of decayed writings. (Royal Society of London. Transactions, London, v. 77, part 2, 1877, p. 451-457.) *** EC**
Library also has a reprint in *OAI p.v. 16, no. 3-4*, with a manuscript translation into French.
48. **Bley**. Prollius' Vorschrift zur Bereitung der Alizartinte. (Dingler's polytechnisches Journal, Stuttgart, Jahrg. 1857, Bd. 145, p. 77.) **3-VA**
See also *Polytechnisches Notizblatt*, Mainz, Jahrg. 12, 1857, p. 203-204, *VA*.
- Blockley**, F. A., joint author. See **Proctor**, H. R., and F. A. **BLOCKLEY**.
49. **Blue inks.** (British printer, London, v. 32, 1919, p. 67.) **†* IPA**
50. **Bodlaender**, G. Über die Löslichkeit der Erdalkalikarbonate in kohlensäurehaltigem Wasser. (Zeitschrift für physikalische Chemie, Leipzig, Bd. 35, 1900, p. 23-32.) **PKA**
51. **Boettger**, Rudolph. Anfertigung einer Copirtinte, mit der man ohne Mitwirkung einer Presse scharfe Copien erhält. (Polytechnisches Notizblatt, Frankfurt a. M., Jahrg. 24, 1869, p. 1-2.) **VA**
Also in *Dingler's polytechnisches Journal*, Augsburg, Bd. 191, 1869, p. 175-176, *3-VA*.
52. — Die Anfertigung einer den kräftigsten chemischen Agentien widerstehenden schwarzen Stempelfarbe zum Bedrucken leinener und baumwollener Gewebe. (Bayarisches Industrie- und Gewerbe-Blatt, München, Jahrg. 4, 1872, p. 362.) **VA**
See also *Chemical news*, London, v. 27, 1873, p. 59, *PKA*.
Use of the anacardium nut.
53. — Encre portative. (Société d'encouragement pour l'industrie nationale. Bulletin, Paris, série 2, tome 20, 1873, p. 625-626.) **VA**
See also *Chemical news*, London, v. 28, Nov. 21, 1873, p. 263-264, *PKA*.
54. — Ueber die Anfertigung einer ausgezeichnet schönen Copirtinte. (Dingler's polytechnisches Journal, Augsburg, Bd. 151, 1859, p. 431-432.) **3-VA**
55. — Unzerstörbare Tinte. (Dinglers polytechnisches Journal, Augsburg, Bd. 207, 1873, p. 176.) **3-VA**
See also *Polytechnisches Centralblatt*, Leipzig, N. F. Jahrg. 27, 1873, p. 141, *VA*; *Polytechnisches Notizblatt*, Mainz, Jahrg. 27, 1872, p. 382-383, *VA*; *Chemical news*, London, v. 27, 1873, p. 84, *PKA*.
56. **Boiled oil and thinning inks.** (British printer, London, v. 35, 1922, p. 73.) **†* IPA**
57. **Bonnardot**, Alfred. Essai sur l'art de restaurer les estampes et les livres, ou traité sur les meilleurs procédés pour blanchir, détacher, décolorer, réparer et conserver les estampes, livres et dessins... suivi d'un exposé des divers systèmes de reproduction des anciennes estampes et des livres rares. Paris: Castel, 1858. viii, 352 p. 2. ed. 12°. **MDC**
- 57a. **Bottler**, Max. Die Beizen. Ein Hand- und Lehrbuch für Färber, Zeugdrucker, Koloristen, Drogisten und Fabrikanten von Färbereichemikalien. Enthaltend die eigentlichen Beizen, deren Darstellung, Prüfung und Anwendung, sowie die in der Färberei und Druckerei als Fixierungsmittel verwendeten Chemikalien und die Netz- und Verdickungsmittel. Wien und Leipzig: A. Hartlebens Verlag, 1920. xvi, 198 p. 2. ed. 12°. (Chemisch-technische Bibliothek. Bd. 120.) **VOR**
58. **Bouchot**, Henri. La lithographie. Paris: Quantin [1895]. 296 p. illus. 8°. **MDP**
See p. 257-263.
59. **Boudet**. Dosage du tannin dans les matières tannantes. (Société chimique de Paris. Bulletin, Paris, série 3, tome 35, 1906, p. 760-762.) **PKA**
60. **Boyer**, Jacques. Reading between the lines. Methods of invisible writing employed during the war, and their detection. illus. (Scientific American, New York, v. 126, 1922, p. 32.) **VA**
61. **Boyle**, Robert. Of the usefulness of experimental philosophy. The second part. The second section. Of its usefulness to the empire of man over inferior creatures. (In his: Works, v. 3, London, 1744, p. 141-155. f°.) **† OAD (Room 120)**
See p. 150-153 for experiments with sympathetic ink.
62. **Brande**, William Thomas. A manual of chemistry. London: J. W. Parker, 1848. 2 v. 8°. **PKL**
For a few recipes see index.

Brégeaut, Léon. See **Broquelet, A.**, and **LÉON BRÉGEAUT.**

63. Breton de la Martinière, Jean Baptiste Joseph. China: its costume, arts, manufactures, &c. edited principally from the originals in the cabinet of the late M. Bertin; with observations explanatory, historical, and literary, by M. Breton. Translated from the French. London: J. J. Stockdale, 1813. 4 v. in 2. 4. ed. illus. 12°. **BEL**

See v. 2, p. 69 for brief description of Chinese ink making and a colored illustration.

64. Bright green ink. (Inland printer, Chicago, v. 42, p. 264.) †* **IPA**

65. Brissemoret, A. Sur une réaction colorée des tanoides. (Société chimique de France. Bulletin, Paris, série 4, tome 1, 1907, p. 474-483.) **PKA**

66. Bromley, Henry Aldous. Outlines of stationery testing. A practical manual. London: Charles Griffin & Co., Ltd., 1913. 4 p.l., 74 p., 6 pl. 12°. (Griffin's technological hand-books.) **VMP**

Brief directions for testing of writing inks.

67. Broquelet, A., and **LÉON BRÉGEAUT.** Manuel complet de l'imprimeur lithographe à la presse, à bras et à la machine. Paris: Garnier frères, 1908. 4 p.l., 359(1) p., 4 pl. 12°. **MDP**

See p. 193-203.

68. Brown, D. R. An attempt to produce indelible writing. (Royal Scottish Society of Arts. Transactions, Edinburgh, 1864, v. 6, p. 107-115.) **VA**

Also in *Dingler's polytechnisches Journal*, Augsburg, Jahrg. 165, 1862, p. 225-230, 3-VA.

Use of hot electric wire; also sulphuric acid.

69. Browne, Warren Crittenden. Offset lithography; a treatise on printing in the lithographic manner from metal plates on rubber blanket offset presses... New York: The National Lithographer, 1917. 3 p.l., 9-216 p. 12°. **MDP**

70. — — New York: The National Lithographer, 1922. 230 p. 2. ed. 12°. **MDP**

71. — Practical text book of lithography; a modern treatise on the art of printing from stone. New York: The National Lithographer, 1912. 231 p. 12°. **MDP**

See p. 94-106.

72. Buchheister, G. A. Tinten. (In his: Handbuch der Drogisten-Praxis. Berlin, 1905. 5. ed. 8°. Teil 2, p. 302-338.) **WT**

Formulas for a large variety of inks, including ink powders and extracts, ink pencils, and etching inks, with directions for restoring faded writings.

73. Buchwald, August. Bleistifte, Farbstifte, farbige Kreiden und Pastellstifte, Aquarellfarben, Tusche und ihre Herstellung nach bewährten Verfahren. Wien und Leipzig: A. Hartleben, 1904. viii, 280 p. illus. 12°. (A. Hartleben's chemisch-technologische Bibliothek. Bd. 275.) **VOP**

Excellent chapter on India and Chinese inks, with illustrations.

74. Bugnon, P. Sur l'emploi d'encre commerciales en histologie végétale. (Académie des sciences. Comptes rendus, Paris, tome 169, 1919, p. 1051-1054.) * **EO**

Abstract in Society of Chemical Industry. *Journal*, London, v. 39, 1920, p. 86A, *VOA*.

Burt, F. V. See **Underwood, John**, and **F. V. BURT.**

75. Burt, Francis L. Printing inks: their history, composition and manufacture. (Inland printer, Chicago, v. 64, 1919-20, p. 190-192, 310-312, 463-464, 575-576.) †* **IPA**

76. — — New York: Sinclair & Valentine Ink Co. [1920?] 41 p. illus. 2. ed. 16°. **VOD** p.v. 37, no. 2

77. C., H. Red and black writing inks. (Druggists circular, New York, v. 62, Jan., 1918, p. 27.) † **WTA**

Recipes for two reds and one black.

Caddell, Waithman. See **Blackburn, Douglas**, and **WAITHMAN CADDELL.**

78. Cahn, Ernst L. Ueber Methylanthrangallol. (Deutsche chemische Gesellschaft. Berichte, Berlin, Jahrg. 19, 1886, p. 2333-2336.) **PKA**

79. Calmels, H., and **L. P. CLERC.** La reproduction photographique des couleurs. Paris: Le Procédé [1907]. 2 p.l., 132 p. illus. 8°. (Bibliothèque des procédés photomécaniques.) **MDS**

See chapter 4: Encre et impressions. Excellent discussion of the optical properties of colored inks.

80. Canepari, Pietro Maria. De atramentis cujuscunque generis. Opus sanè novum, hactenus à nemine promulgatum. In sex descriptiones digestum. Auctore, Petro Maria Canepario... Londini: excudebat J. M., impensis J. Martin [etc.], 1660. 8 p.l., 568 p. 4°. **Reserve**

81. The Care and use of printing inks. (British printer, London, v. 28, 1915, p. 117-118.) †* **IPA**

82. Carr, Henry J. Inks for library use. (Library journal, New York, v. 19, 1894, p. 84.) * **HA**

83. Carré, F. Sur des moyens de reconnaître l'âge d'une écriture faite avec une encre à base de fer. (Académie des sciences. Comptes rendus, Paris, tome 68, 1869, p. 1213-1214.) * **EO**

See also *Zeitschrift für Chemie*, Leipzig, Jahrg. 12, 1869, p. 448, **PKA**; *Dingler's polytechnisches Journal*, Augsburg, Bd. 193, 1869, p. 260, 3-VA.

84. Carty, Alton B. Care of printing inks. (British printer, London, v. 33, 1920, p. 117-118.) †* **IPA**

85. Carvalho, David Nunes. Forty centuries of ink; or, A chronological narrative concerning ink and its backgrounds, introducing incidental observations and deductions, parallels of time and color, phenomena, bibliography, chemistry, poetical effusions, cita-

tions, anecdotes and curiosa together with some evidence respecting the evanescent character of most inks of today and an epitome of chemico-legal ink. New York: The Banks Law Publishing Co., 1904. viii, 374 p. 8°.

VOPB

86. **Chameleon inks.** (Inland printer, Chicago, v. 45, 1910, p. 82.)

†* **IPA**

87. **Chaplet, A.** Les encres pour inscriptions indelebiles sur tissus. (Revue mensuelle du blanchissage, du blanchiment & des apprêts, Paris, tome 15, 1921, p. 19–20, 23–24, 29–30; tome 16, 1921, p. 33–34.)

VLG

Issued as a supplement to *Revue générale des matières colorantes*, v. 25, 1921.

Brief abstract in *Chemical abstracts*, Easton, Penn., v. 16, 1922, p. 504, **PKA**.

28 formulas and directions for compounding.

88. **A Cheap way to make printing ink.** (Chemical age, New York, v. 30, 1922, p. 172.)

VOA

Description of U. S. patent no. 1,410,012 issued to Holmes and Cameron. Use of gum dammar as an emulsifying agent.

89. **Chemical action of red inks and electropates.** (Inland printer, Chicago, v. 37, 1906, p. 77.)

†* **IPA**

90. **Chemische Fabrik Griesheim-Elektron**, Frankfurt a. Main.—Werk Oehler. Pigmentfarben. Couleurs pour laques. Pigment-colours. Gebrauchs-Anweisung. Mode d'emploi. Method of working. [With volume of samples.] Frankfurt a. M. [1911.] 2 v. 16° and 4°.

VLG and † **VLG**

See p. 52 for aniline blues for printing ink.

91. **Chen-ki-souen.** L'encre de Chine: son histoire et sa fabrication, d'après des documents chinois. Traduits par Maurice Jamelet. Paris: Ernest Leroux, 1882. xxx p., 1 l., (1)4–94 p., 3 l., 20 pl. 16°. (Bibliothèque orientale elzévirienne. v. 32.)

VOPB

Reproduction of old drawings showing process.

A second copy in ***OAD**.

92. **Claisen, L.** Untersuchungen über die Oxymethylenverbindungen. (Liebig's Annalen der Chemie, Leipzig, Bd. 281, 1894, p. 306–313.)

PKA

Has a bibliography.

— See also **Bishop, A. W.**, and others.

93. **Clark, W. Inglis.** An attempt to place the manufacture of ink on a scientific basis. (Society of Chemical Industry. Journal, London, v. 11, 1892, p. 738–739.)

VOA

94. **Clerc, Louis Philippe.** Les reproductions photomécaniques; polychromes, sélections trichromes, orthochromatisme, procédés d'interprétation. Paris: Octave Doin et fils, 1919. 2 p.l., 339 p. illus. 16°. (Encyclopédie scientifique. Bibliothèque de photographie.)

MDS

See chapter 8: Les encres de couleur.

— See also **Calmels, H.**, and **L. P. CLERC**.

95. **A Colossal ink manufactory.** illus. (Inland printer, Chicago, v. 9, 1892, p. 698–699.)

†* **IPA**

Jaenecke-Ullman Company's works at Newark, N. J.

96. **Colt, Gordon.** Mixing colors. (Inland printer, Chicago, v. 61, 1918, p. 334.)

†* **IPA**

97. **Commonwealth of Massachusetts** specifications for a standard record ink. (Society of Chemical Industry. Journal, London, v. 23, 1904, p. 544.)

VOA

98. **Concerning printing inks.** Ink of the ancients. Printing ink of the earliest printers. The ink of Caxton's and Aldus' day. Printing ink of the present day. Ink making as carried on by George Mather's Sons. illus. (Inland printer, Chicago, v. 3, 1885, p. 1–5.)

†* **IPA**

99. **"Condensed ink" for camp use.** (Engineering & contracting, Chicago, v. 45, 1916, p. 589.)

VOA

100. **Cooley's cyclopædia of practical receipts and collateral information in the arts, manufactures, professions, and trades...** Sixth edition, revised and partly rewritten by Richard V. Tuson. New York: D. Appleton & Co., 1879–80. 2 v. 8°.

VBA

For recipes, see v. 2, p. 897–899.

101. **A Copying ink.** (American druggists' circular, New York, v. 1, 1857, p. 82.)

†† **WTA**

102. **Copying ink.** (Inland printer, Chicago, v. 26, 1900, p. 469.)

†* **IPA**

103. **Copying ink.** (Inland printer, Chicago, v. 50, 1912, p. 414.)

†* **IPA**

Suggested method for working.

104. **Copying inks.** (British printer, London, v. 27, 1914–15, p. 280.)

†* **IPA**

105. **Copying inks dry up.** (Inland printer, Chicago, v. 24, 1899, p. 97–98.)

†* **IPA**

Suggestions to prevent this trouble.

106. **Cormimboeuf, H.** Sur le dosage du tannin. (Annales de chimie analytique, Paris, tome 7, 1902, p. 452–454.)

PKA

107. — Sur le dosage du tannin par l'iode. (Annales de chimie analytique, Paris, tome 12, 1907, p. 395–397.)

PKA

108. **Cost of de-inked newspapers.** (Chemical age, New York, v. 31, 1923, p. 238.)

VOA

109. **Cox, W. Ilston.** Can trichromatic inks be standardized? (British printer, London, v. 33, 1921, p. 222.)

†* **IPA**

Also in *Penrose's annual*, London, v. 23, 1921, p. 87–88, **MDSA**.

110. — The drying of printing inks. (Penrose's annual, London, v. 24, 1922, p. 61–62.)

MDSA

111. Cracau, J. Restoration of faded writings. (Chemical abstracts, Easton, Penn., v. 5, 1911, p. 793.) **PKA**

Abstract only. See also *Chemisches Zentralblatt*, Berlin, Folge 5, Jahrg. 14, Th. 2, p. 425, **PKA**.

112. Crittenden, Lee. On the handling of inks. (British printer, London, v. 24, 1911-12, p. 312.) **†* IPA**

113. Crookes, Sir William. A practical handbook of dyeing and calico-printing. London: Longmans, Green & Co., 1874. xvi, 730 p. illus. 8°. **VLG**

Bibliography of coal-tar colors, p. 702-715. See index for references to tannin and galls.

114. Crouzel, Ed. Procédé nouveau de dosage du tannin. (Annales de chimie analytique, Paris, tome 7, 1902, p. 373-374.) **PKA**

115. Cumming, David. Handbook of lithography. A practical treatise for all who are interested in the process. London: Adam & Charles Black, 1904. viii p., 2 l., 244 p., 14 pl., 1 port. 12°. **MDP**

116. ——— London: Adam & Charles Black, Ltd., 1919. v(i) p., 1 l., 244 p. illus. 2. ed. 12°. **MDP**

117. Dangerous ink. (Inland printer, Chicago, v. 8, 1891, p. 469.) **†* IPA**

A disappearing writing ink, being a watery solution of iodide of amyllum.

118. Daniels, Bernard. The cost of ink. (Inland printer, Chicago, v. 66, 1920, p. 56.) **†* IPA**

119. Darmstaedter, Ludwig. Handbuch zur Geschichte der Naturwissenschaften und der Technik. In chronologischer Darstellung. Berlin: Julius Springer, 1908. x p., 1 l., 1262 p., 1 l. 8°. **Desk - OAC**

Historical notes of interest. See index.

120. Davy, Sir Humphrey. Some observations and experiments on the papyri found in the ruins of Herculaneum. illus. (Royal Society of London. Philosophical transactions, London, 1821, part 2, p. 191-208.) *** EC**

Figure 1 shows an ink pot, a reed pen, and a roll of papyrus.

121. Dekker, J. Ueber die Constitutionsformel des Tannins. (Deutsche chemische Gesellschaft. Berichte, Berlin, Jahrg. 39, 1906, p. 2497-2502, 3784.) **PKA**

122. Delidou. Copirtinte. (Deutsche chemische Gesellschaft. Berichte, Berlin, Bd. 6, 1873, p. 156-157.) **PKA**

123. Dennstedt, M., and F. VOIGTLÄNDER. Der Nachweis von Schriftfälschungen, Blut, Sperma usw. unter besonderer Berücksichtigung der Photographie mit einem Anhang über Brandstiftungen für Chemiker, Pharmazeuten, Mediziner, Juristen, Polizeior-gane usw. Braunschweig: F. Vieweg &

Sohn, 1908. 2 p.l., (i)vi-x, 248 p. illus. 8°. (Georg Baumert: Lehrbuch der gerichtlichen Chemie. Aufl. 2. Bd. 2.)

PPL (Baumert)

Unusually complete discussion of ink tests for forgery.

Desch, C. H., joint author. See Hantzsch, A., and C. H. DESCH.

124. Desmarest, L. Fabrication des encres & cirages, encres à écrire, à copier, de couleurs, métalliques, à dessiner, lithographiques, cirages, vernis et dégras, par L. Desmarest, d'après S. Lehner et R. Brunner. Paris: Bernard Tignol [1912], 2 p.l., 345 p. 2. ed. 12°. (Bibliothèque des actualités industrielles. no. 65.) **VOPB**

124a. ——— Manuel pratique de la fabrication des encres, encres à écrire, à copier, de couleurs, métalliques, à dessiner, encres d'imprimerie, par L. Desmarest et S. Lehner. Paris: Gauthier-Villars et C^{ie}, 1923. 2 p.l., 372 p. 3. ed. 12°. (Bibliothèque des actualités industrielles. no. 65.) **VOPB**

125. Determining how much ink is used on a job. (Inland printer, Chicago, v. 48, 1912, p. 731.) **†* IPA**

126. De Vinne, Theodore Low. The invention of printing. A collection of facts and opinions... New York: Francis Hart & Co., 1876. 4 p.l., 7-556 p. illus. 8°. *** IPF**

See index for several references to inks of early printers.

127. Diaz, A. S. Indelible inks and the erasing of writings; their chemico-legal study. (Chemical abstracts, Easton, Penn., v. 17, 1923, p. 476-477.) **PKA**

Abstract only.

128. Diergart, Paul. Die verlorene Technik, Druckerschwärze von bedrucktem Papier wegzulösen. (Chemiker-Zeitung, Cöthen, Jahrg. 46, 1922, p. 41-42.) **VOA**

Early history of processes, with bibliographical references.

129. Dieterich, E. Gallus Tinten. (Jahres-Bericht über die Leistungen der chemischen Technologie für 1889, Leipzig, N. F. Jahrg. 20, p. 1180-1181.) **VOA**

Blue ink to turn black.

Dobriner, P., joint author. See Frese-nius, W., and P. DOBRINER.

130. "Doping" ruling-machine inks and printing inks. (British printer, London, v. 30, 1917, p. 125.) **†* IPA**

131. Doremus, Charles Avery. The identification of colored inks by their absorption spectra. illus. (American Philosophical Society. Proceedings, v. 35, April, 1896, p. 71-74.) *** EA**

132. Dott, D. B. Permanence of writing-ink. (Society of Chemical Industry. Journal, London, v. 35, 1916, p. 493.) **VOA**

Tests with hydrogen peroxide.

133. Dreaper, William Porter. Estimation of tannic and gallic acids. (Chemical news, London, v. 90, 1904, p. 111-112.) **PKA**

134. Drying oils. (Inland printer, Chicago, v. 47, 1911, p. 578.) †* **IPA**

135. Dullo. Ueber die Entfernung der Dinte von Papier. (Wieck's Deutsche illustrierte Gewerbezeitung, Leipzig, Jahrg. 27, 1862, p. 289-290.) **VA**

Also in *Polytechnisches Centralblatt*, Leipzig, N. F. Jahrg. 16, 1862, p. 1308-1309, *VA*.

Dupont, G., joint author. See Vèzes, M., and G. DUPONT.

136. Dyestuffs and the printing ink industry. (Color trade journal, New York, v. 4, 1919, p. 143.) **VOA**

Discusses a protective tariff.

137. Earhart, J. F. Harmony of colors. (Inland printer, Chicago, v. 45, 1910, p. 216-218, 549-550, 711-712; v. 46, 1910-11, p. 76-77, 231-232, 406-407, 570-571, 897-898.) †* **IPA**

138. Ehrmann, Édouard Charles Albert. Traité des matières colorantes organiques et de leurs diverses applications. Préface de M. A. Haller. Paris: Dunod, 1922. xxii p., 1 l., 615(1) p. 4°. **VOR**

A few recipes for writing, copying, hectograph, stamping, and typewriter inks.

139. Elsdon, G. D. Arsenic in printing ink. (Analyst, London, v. 49, 1924, p. 336-337.) **PKA**

140. Elsner, Fritz. Die Praxis des Chemikers... Hamburg und Leipzig: Leopold Voss, 1893. 3 p.l., (i)viii-xii, 622 p. 5. ed. illus. 8°. **PMB**

See p. 428-430 for brief references to ink and the investigation of handwriting. Has a table showing reaction of various reagents.

141. Elsner, L. Ueber die Bereitung einer schwarzen unauslöschlichen Tinte. (Dingler's polytechnisches Journal, Augsburg, Jahrg. 1861, Bd. 160, p. 239-240.) **3-VA**

See also *Chemisches Centralblatt*, Leipzig, N. F. Jahrg. 6, Bd. 1, 1861, p. 319-320, *PKA*; *Polytechnisches Centralblatt*, Leipzig, N. F. Jahrg. 15, 1861, p. 557-558, *VA*.

142. [Encres.] (Revue de chimie industrielle, Paris, année 25, 1916, p. 219-220.) **VOA**

Recipes for powdered copying ink, stamping and marking inks.

143. *Encyclopædia Britannica*; a dictionary of arts, sciences, literature and general information. 11th ed. Cambridge: University Press, 1910-11. 29 v. 4°. ***R-AL**

See v. 14, p. 571-573 for general article.

144. *Encyclopédie*, ou dictionnaire raisonné des sciences, des arts et des métiers. Nouvelle éd. tome 1-12, 14-23, 25-36. Genève, 1777-79. 34 v. 4°. ††* **AP**

See tome 8, p. 621-622 for process of making black printing ink; tome 5, p. 632-634, for writing and sympathetic inks.

145. Entfernung von Tintenflecken aus farbigen Stoffen. (Polytechnisches Notizblatt, Mainz, Jahrg. 27, 1872, p. 208.) **VA**

See also *Chemisches Centralblatt*, Leipzig, Folge 3, Jahrg. 3, 1872, p. 512, *PKA*; Chemical Society. *Journal*, London, new series, v. 10, 1872, p. 1142, *PKA*.

146. Erzeugung von Tinte aus Grubenwässern. (Berg- und huettenmaennische Zeitung, Leipzig, Jahrg. 37, 1878, p. 88.) **VHA**

States that the tannery waste water from Wills Creek in the Cumberland Mountains may easily be changed into good ink.

147. Estimating the quantity of ink for three-color work. (Inland printer, Chicago, v. 47, 1911, p. 892.) †* **IPA**

148. Etching and proving ink. (Inland printer, Chicago, v. 52, 1913, p. 267.) †* **IPA**

Formulas.

149. Etti, C. Ueber das malabrische Kino-gummi und eine daraus zu erhaltende neue Substanz, das Kinoïn. (Deutsche chemische Gesellschaft. Berichte, Berlin, Jahrg. 11, 1878, p. 1879-1883.) **PKA**

Discusses melting points of gallic and pyrogallic acids. Abstract in Chemical Society. *Journal*; *Abstracts*, London, v. 36, 1879, p. 159-160.

150. The Evolution of printing ink, being a history of the first commercial ink manufactory in the world. (National lithographer, New York, v. 25, no. 8, 1918, p. 41-42.) † **3-MDP**

151. Ewell, E. E. Methods for the investigation of canceling inks and other stamping inks. [Washington: Gov. Prtg. Off., 1905.] 6 p. 8°. (United States. — Bureau of Chemistry. Circular no. 12, revised.) **VPH**

152. F., J. P. A cheap and durable marking ink. (Chemical abstracts, Easton, Penn., v. 4, 1910, p. 397.) **PKA**

Used in Hawaii for stenciling sugar bags.

153. Fabrication de couleurs pour aquarelles et lavis et d'encre pour timbres en caoutchouc. (Revue des produits chimiques, Paris, année 25, 1922, p. 441-442.) **PKA**

154. The Fading of printing inks. (British printer, Leicester, v. 30, 1917, no. 175, p. 15.) †* **IPA**

155. Fawcett, Waldon. Commissions & gratuities eliminated in selling ink. (Inland printer, Chicago, v. 60, 1918, p. 495-496.) †* **IPA**

156. Feist, K. Über das Tannin. (Chemiker-Zeitung, Cöthen, Jahrg. 32, 1908, p. 918.) †† **VOA**

157. Fels, Bruno. Studien über die Indikatoren der Acidimetrie und Alkalimetrie. (Zeitschrift für Elektrochemie und Alkalimetrie, Jahrg. 10, 1904, p. 208-214.) **PKA**

158. **Fiechter, A.** Über eine Darstellung von tintenbildenden Körpern aus Benzolderivaten. (Chemiker-Zeitung, Cöthen, Jahrg. 35, 1911, p. 115, 1066.) **VOA**
Abstract in Society of Chemical Industry. *Journal*, London, v. 30, 1911, p. 203, 1223, **VOA**.
159. **Finzi, N. S.** A skin ink for radiography. (British medical journal, London, 1918, part 1, p. 52-53.) **† WAA**
160. **Fischer, Emil, and KARL FREUDENBERG.** Über das Tannin und die Synthese ähnlicher Stoffe. (Deutsche chemische Gesellschaft. Berichte, Berlin, Jahrg. 45, 1912, p. 915-935.) **PKA**
161. **Fischer, Robert.** The Ostwald color-system and the manufacture of pigments for book-printing and lithographing. (Chemical abstracts, Easton, Penn., v. 15, 1921, p. 1080.) **PKA**
162. **Fitzpatrick, John Clement.** Notes on the care, cataloguing, calendaring and arrangement of manuscripts. Washington: Gov. Prtg. Off., 1913. 45 p. 12°. (United States. — Library of Congress: Division of Manuscripts.) **Mss. Div.**
Library of Congress method of cleaning manuscripts.
163. **Fk.** Über Rohstoffe der Druckfarben-industrie im Kriege. (Zeitschrift für angewandte Chemie, Leipzig, Bd. 32, Wirtschaftlicher Theil, 1919, p. 137-138.) **PKA**
Abstract in Society of Chemical Industry. *Journal*, London, v. 38, 1919, p. 271r.
164. **Flamel, Nicolas.** Encres sympathiques. (La Nature, Paris, année 45, 1917, semestre 2, p. 86-89.) **OA**
165. **Fleck, Hugo.** Methode zur Bestimmung der Gerbsäure in gerbsäurehaltenden Materialien. (Zeitschrift für analytische Chemie, Wiesbaden, Jahrg. 5, 1866, p. 234.) **PKA**
166. **Fontenay, Guillaume de.** Action des encres sur la plaque photographique. (Académie des sciences. Comptes rendus, Paris, tome 155, 1912, p. 1610-1612.) *** EO**
Abstract in *Chemical abstracts*, Easton, Penn., v. 3, 1909, p. 984, **PKA**.
167. **Formulas for bleacher's ink.** (Textile world journal, New York, v. 53, 1917, p. 1751.) **VLA**
- Fothergill, J. B.,** joint author. See **Knecht, Edmund, and J. B. FOTHERGILL.**
168. **Franke, C. A.** Die Buchdrucker-kunst. Praktisches Handbuch . . . herausgegeben von Max Müller. Leipzig: B. F. Voigt, 1904. 1 p.l., (i)iv-viii, 338 p. 6. ed. rev. illus. 8°. *** IPR**
For colored inks see p. 257-262.
169. **Frazer, Persifor.** Bibliotics; or, The study of documents, determination of the individual character of handwriting and detection of fraud and forgery. New methods of research. Philadelphia: J. B. Lippincott Co., 1901. xxiv, 15-266 p., 15 pl., 1 port. 3. ed. 8°. *** ICL**
170. **Fresenius, W., and P. DOBRINER.** Über Gerbsäure und ihre Bestimmung. (Zeitschrift für analytische Chemie, Wiesbaden, Jahrg. 34, 1895, p. 102-110.) **PKA**
- Freudenberg, Karl,** joint author. See **Fischer, Emil, and KARL FREUDENBERG.**
171. **Frey, A.** Manuel nouveau de typographie. . . Paris: Roret, 1835. 2 v. illus. 16°. *** IPR**
Recipes for black and colors.
172. **Friedenthal, Hans.** Die Bestimmung der Reaktion einer Flüssigkeit mit Hilfe von Indikatoren. (Zeitschrift für Elektrochemie, Halle a. S., Jahrg. 10, 1904, p. 113-119.) **PKA**
173. **Frost-proof ink.** (Inland printer, Chicago, v. 4, 1887, p. 415.) **†* IPA**
174. **Fuchs, Julius.** Darstellung farbiger Tinten mit Anilinfarben. (Dingler's polytechnisches Journal, Augsburg, Bd. 181, 1866, p. 335.) **3 - VA**
See also *Polytechnisches Centralblatt*, Leipzig, N. F. Jahrg. 20, 1866, p. 1500-1501, **VA**; *Polytechnisches Notizblatt*, Mainz, Jahrg. 21, 1866, p. 255, **VA**.
175. **Gage, Fred W.** Paper and inks. (Inland printer, Chicago, v. 42, 1908, p. 69-71.) **†* IPA**
Brief general article.
176. **Gerhardt.** Über Tintenfleckenentfernung. (Zeitschrift für angewandte Chemie, Leipzig, Jahrg. 33, Aufsatzteil, 1920, p. 32.) **PKA**
Abstract in Society of Chemical Industry. *Journal*, London, v. 39, 1920, p. 186A, **VOA**.
177. **Gintl, W.** Neue Copirtinte. (Chemisches Centralblatt, Folge 3, Jahrg. 8, 1877, p. 464.) **PKA**
178. **Girod.** [Recherches chimiques sur le produit de la sécrétion de la poche de noir chez les cephalopodes.] (Académie des sciences. Comptes rendus, Paris, tome 92, 1881, p. 364-367, 966-968, 1241-1243.) *** EO**
179. **Giving tone to the liberty loan.** illus. (Color trade journal, New York, v. 1, 1917, p. 35-37.) **VOA**
180. **A Glass-etching ink.** (Chemical abstracts, Easton, Penn., v. 15, 1921, p. 1382.) **PKA**
Abstract only.
181. **Gloss ink.** (Inland printer, Chicago, v. 42, 1908, p. 414.) **†* IPA**
182. **Goepel.** Die beste Bereitungsart der Chromtinte. (Dingler's polytechnisches Journal, Stuttgart, Jahrg. 1859, Bd. 151, p. 80.) **3 - VA**
See also *Polytechnisches Centralblatt*, Leipzig, N. F. Jahrg. 12, 1858, p. 1661-1662, **VA**.
183. **Goethe, Johann Wolfgang von.** Goethe-Briefe mit Einleitungen und Erläuterungen

hrsg. von Philipp Stein. Berlin: Otto Elsner, 1902-05. 8 v. 8°.

NFGI

See Bd. 3, p. 292 for a letter describing Götting's process for de-inking printed paper.

184. Goodman, Joseph. Practical modern metalithography. . . Letchworth, Herts: Garden City Press, Ltd., 1914. xii, 230 p., 1 l., 10 pl., 1 port. illus. 8°.

MDP

See index.

185. Gothe, Heinrich. Reclaiming writing paper. (Paper, New York, v. 27, no. 6, 1920, p. 30.)

VMPA

Brief description of his German patent.

186. Gouillon, A. Félix. Traité méthodique de la fabrication des encres et cirages, colles de bureau, cires à cacheter. . . Paris: Garnier frères, 1906. 2 p.l., (i)vi-xxii, 518 p. illus. 8°.

VOPB

Comprehensive, with numerous formulas and abstracts of French patents.

187. Graebe, C. Ueber die Constitution der Ellagsäure. (Deutsche chemische Gesellschaft. Berichte, Berlin, Jahrg. 36, 1903, p. 212-215.)

PKA

188. Great Britain.—Patents Commissioner. Abridgments of specifications relating to writing instruments and materials, A.D. 1635-1866. London: Eyre & Spottiswoode, 1869. xxiv, 404 p. 12°.

*** V**

For a brief history of inks in ancient times see p. xv-xvi.

189. Green and red ink combination. (Inland printer, Chicago, v. 42, 1908, p. 413.)

†* IPA

190. Gress, Edmund Geiger. The American handbook of printing, containing in brief and simple style something about every department of the art and business of printing. New York: Oswald Publishing Co., 1907. 7 p.l., 284 p., 1 chart, 10 pl. 12°.

*** IPR**

See chapter 10.

191. Griffith, Ivor. Improved formula for a testing ink for sterilizers and autoclaves. (Chemical abstracts, Easton, Penn., v. 17, 1923, p. 3887.)

PKA

Abstract only.

192. Griffiths, Thomas Michael. Non-secret formulas. St. Louis: T. M. Griffiths [1910]. 3 p.l., 514 p. 2. ed. 8°.

VBA

See index for recipes.

193. Griggi, Gioachino. Über eine empfindliche und wenig bekannte Reaktion der Gallussäure, welche zu ihrer Unterscheidung von der Digallussäure und der Pyrogallussäure ausreicht. (Chemisches Centralblatt, Berlin, Folge 5, Jahrg. 3, 1899, Theil I, p. 454.)

PKA

194. Grills, Ernest R. The use of ultra-violet light in testing inks and pigments. illus. (Penrose's annual, London, v. 25, 1923, p. 33-36.)

MDSA

195. Gross, Hans Gustav Adolf. Handbuch für Untersuchungsrichter als System der Kriminalistik. München: J. Schweitzer Verlag, 1914. 2 v. 6. ed. illus. 4°.

SLG

Chemical and photographic methods for detection of forgery.

196. Gunn, Maurice James. Print restoration and picture cleaning. London: L. Upcott Gill, 1911. vi p., 1 l., 172 p., 18 pl. 8°.

MDC

197. Haas, B. Befreien der Altpapiere von ihren Druckfarben. (Chemiker-Zeitung, Cöthen, Jahrg. 45, 1921, p. 913-915.)

VOA

198. — Entfernen von Druckerschwärze aus Altpapier. (Chemiker-Zeitung, Cöthen, Jahrg. 45, 1921, p. 1187.)

VOA

Abstract in *Chemical abstracts*, Easton, Penn., v. 16, 1922, p. 829, *PKA*.

199. Habermann, J. Über den Nachweis von Schriftzeichen auf verkohltem Papier. (Zeitschrift für analytische Chemie, Wiesbaden, Jahrg. 48, 1909, p. 729-750.)

PKA

Abstract in *Chemical abstracts*, Easton, Penn., v. 4, 1910, p. 1143, *PKA*.

200. Habermann, J., and A. OESTERREICHER. Ueber die Verwendung der Copierpresse bei Ermittlung von Schriftfälschungen. (Zeitschrift für analytische Chemie, Wiesbaden, Jahrg. 40, 1901, p. 725-729.)

PKA

201. Hacker, Willy. Stempelfarben. (Farben-Zeitung, Leipzig, Jahrg. 26, 1921, p. 1508-1509.)

VOA

Includes laundry marking inks.

Hackford, J. E., joint author. See Trotman, S. R., and J. E. HACKFORD.

202. Hackleman, Charles William. Commercial engraving and printing. . . Indianapolis: Commercial Engraving Publishing Co. [cop. 1921.] 1 p.l., (1)6-846 p. illus. 8°.

MDR

See chapter entitled: Printing inks and the harmony of colors. Has excellent color combination plates.

203. Hadley, Walter E. A brief resume of writing and printing inks. (American dye-stuff reporter, New York, v. 8, no. 14, p. 20-21, 24, 26; no. 15, p. 26.)

VOR

204. Haerting, Karl. Eisenoxyd-Zellulose. (Kolloid-Zeitschrift, Dresden, Bd. 25, 1919, p. 74-79.)

PKA

Abstract in *Chemical abstracts*, Easton, Penn., v. 14, 1920, p. 886, *PKA*.

"The letters of many old handwritings become brittle and eventually fall out of the sheet. To determine the causes of this disintegration the effect of various inks on paper, parchment and pure cellulose was studied."

205. Hagan, William E. A treatise on disputed handwriting and the determination of genuine from forged signatures. The character and composition of inks, and their determination by chemical tests. The effect of age as manifested in the appearance of written instruments and documents. New

York & Albany: Banks & Brothers, 1894.
2 p.l., (1)6-289 p., 9 pl. 8°. *ICL

206. **Hamburger, H. J.** Injektionen mit Eiweiss- und Serumtusche zu mikroskopischen Swecken. (Zeitschrift für wissenschaftliche Mikroskopie, Leipzig, Bd. 25, 1908, p. 1-3.) OCA

Abstract in *Chemical abstracts*, Easton, Penn., v. 3, 1909, p. 1551, PKA.

207. **Hanes, E. S.** Metallic inks. (Penrose's annual, London, v. 26, 1924, p. 111-112.)

Directions for mixing and using. MDSA

208. **Hansard, Thomas Curson**, 1776-1833. *Typographia: an historical sketch of the origin and progress of the art of printing; with practical directions for conducting every department in an office...* London: Baldwin, Cradock, and Joy, 1825. 2 p.l., (i)iv-xvi p., 4 l., 939 p., 13 l. illus. 8°. See chapter 8, p. 715-733. *IPB

209. **Hansard, Thomas Curson**, 1813-1891. *Treatises on printing and type-founding.* Edinburgh: A. & C. Black, 1841. vii, 165 p. 8°. *IPR

Brief reference to black, colored, and lithographic inks.

210. **Hantzsch, A., and C. H. DESCH.** Ueber farbige organische Ferriverbindungen. (Liebig's Annalen der Chemie, Leipzig, Bd. 323, 1902, p. 1-31.) PKA

211. **Haring, J. Vreeland.** Important documents and ink. (American legal news, Detroit, v. 26, July, 1915, p. 13, 15.) XAA

212. **Hartmann, Martin.** Benennung und Definierung der Lichtechtheitsgrade bei Druckfarben. (Farben-Zeitung, Berlin, Jahrg. 28, 1922, p. 558-559.) VOA

Divides inks into five grades according to their permanence under the effects of light. Based on Kraiss method.

213. **Hassett, Paul J.** The manufacture of typewriter ribbons and carbon paper. (American dyestuff reporter, New York, v. 10, 1922, p. 403-404.) VOR

Abstract in *Chemical abstracts*, Easton, Penn., v. 16, 1922, p. 2611, PKA.

214. **Haug, Anton J.** Modern washing system for waste paper recovery. illus. (Paper trade journal, New York, v. 75, no. 8, 1922, p. 49-50.) VMA

215. **Haynes, R. E.** Printers' detergents. (Inland printer, Chicago, v. 59, 1917, p. 327-328.) *IPA

216. Heat accelerates the drying of ink. (Inland printer, Chicago, v. 47, 1911, p. 729.) *IPA

217. **Heeren.** Erprobtes Rezept für Tinte zum Zeichnen der Wäsche. (Polytechnisches Centralblatt, Leipzig, N. F. Jahrg. 18, 1864, p. 1324.) VA

See also *Polytechnisches Notizblatt*, Mainz, Jahrg. 19, 1864, p. 208, VA.

218. **Heinemann, Adolf.** Beiträge zur Analyse de Gallusgerbsäure. (Zeitschrift für angewandte Chemie, Berlin, Jahrg. 1899, p. 245-253.) PKA

219. — Bemerkungen zu Dr. Gustav Ullmann's Prüfungsmethode der in der Färberei verwendeten Gerbmaterien und der basischen Farbstoffe. (Chemiker-Zeitung, Cöthen, Jahrg. 24, 1900, p. 58.) ††VOA

220. **Helbig.** The removal of aniline ink spots from textile fabrics. (Society of Chemical Industry. Journal, London, v. 14, 1895, p. 267.) VOA

221. **Hellot.** Sur une nouvelle encre sympathique. (Académie royale des sciences. Mémoires, année 1737, Paris, 1740, p. 101-120, 228-247.) *EO

Reprinted in J. M. Eder, *Quellenschriften zu den frühesten Anfängen der Photographie bis zum XVIII. Jahrhundert*, Halle a. S., 1913, p. 105-116, †PKB.

222. **Henley's** twentieth century formulas, recipes and processes, containing ten thousand selected household and workshop formulas, recipes, processes and moneysaving methods for the practical use of manufacturers, mechanics, housekeepers and home workers, edited by Gardner D. Hiscox. 1921 edition, revised and enlarged. New York: The Norman W. Henley Publishing Company, 1921. 2 p.l., 7-807 p. illus. 8°. Desk - 121 (Hiscox)

For numerous recipes see p. 403-417.

Hepworth, Thomas Cradock, joint author. See **Mitchell**, Charles Ainsworth, and T. C. HEPWORTH.

223. **Herstellung** flüssiger schwarzer Tusche. (Neueste Erfindungen und Erfahrungen, Wien und Leipzig, Jahrg. 43, 1916, p. 51-53.) VA

224. **Herzberg, W.** Leimschwache Papiere und Kriegstinte. (Prussia. — Materialprüfungsamt. Mitteilungen, Berlin, Jahrg. 34, 1916, p. 286-290.) VA

225. — Die Natur der nicht-absorbierenden Zone (Randzone) bei Tintenklecksen in Löschpapieren. (Prussia. — Materialprüfungsamt. Mitteilungen, Jahrg. 27, 1909, p. 46-48.) VA

Abstract in *Chemical abstracts*, Easton, Penn., v. 3, 1909, p. 1811, PKA.

226. — Zerstörung von Papier durch Tinte. (Prussia. — Materialprüfungsamt. Mitteilungen, Berlin, Jahrg. 40, 1922, p. 90-95.) VA

See also Society of Chemical Industry. *Journal*, London, v. 42, 1923, p. 10A, VOA; *Chemical abstracts*, Easton, Penn., v. 17, 1923, p. 1329, 2783, PKA; *Paper makers' monthly journal*, London, v. 61, 1923, p. 236-237, VMPA.

227. **Herzig, J., and R. TSCHERNE.** Ueber methylylirtes Tannin. (Deutsche chemische Gesellschaft. Berichte, Berlin, Jahrg. 38, 1905, p. 989-991.) PKA

228. Hesse, Friedrich. Die Chromolithographie, mit besonderer Berücksichtigung der modernen, auf photographischer Grundlage beruhenden Verfahren und der Technik des Aluminiumdrucks. Halle a. S.: Wilhelm Knapp, 1906. xvi, 383 p., 20 pl. 2. ed. 4°.

MDP

229. — La chromolithographie et la photochromolithographie; édition française par A. Mouillot [et] G. Lequatre. Paris: A. Muller [189-?], viii p., 1 l., 362 p. 8°. MDP

230. Hesse, O. Ueber das Verhalten des Phenols zu einigen Chinaalkaloiden. (Liebig's Annalen der Chemie, Leipzig, Bd. 182, 1876, p. 160-163.)

PKA

231. Himes, Charles F. Treatment of written historical documents for preservation. illus. (Franklin Institute. Journal, Philadelphia, v. 163, 1907, p. 161-163.)

VA

Abstract in *Chemical abstracts*, Easton, Penn., v. 1, 1907, p. 1326, PKA.

232. Hinrichsen, Friedrich Willy. Das Materialprüfungswesen unter besonderer Berücksichtigung der am Königl. Materialprüfungsamte zu Berlin-Lichterfelde üblichen Verfahren im Grundriss dargestellt ... Stuttgart: Ferdinand Enke, 1912. xx, 607 p. illus. 8°.

VEE

See chapter 9.

233. — Die neuen Grundsätze für amtliche Tintenprüfung. (Prussia.—Materialprüfungsamt. Mitteilungen, Berlin, Jahrg. 31, 1913, p. 370-378.)

VA

Untersuchungen über Eisengallustinten. Mitteilung 11.

See also *Chemiker-Zeitung*, Cöthen, Jahrg. 37, 1913, p. 265-267, VOA; *Analyst*, London, v. 38, 1913, p. 213-214, PKA; *Chemical abstracts*, Easton, Penn., v. 7, 1913, p. 2482, v. 8, 1914, p. 2069, PKA.

234. — Tinte. (In: R. O. Herzog and others, *Chemische Technologie der organischen Verbindungen*. Heidelberg, 1912. 4°. p. 454-457.)

VOE

Brief chapter, including the Prussian specifications.

235. — Über die Bestimmung von Gerb- und Gallussäure bei Gegenwart von Eisensalzen. (Prussia.—Materialprüfungsamt. Mitteilungen, Berlin, Jahrg. 24, 1906, p. 287-288.)

VA

Untersuchungen über Eisengallustinten. Mitteilung 4.

236. — Über die Bestimmung von Gerb- und Gallussäure bei Gegenwart organischer bei der Tintendarstellung verandter Stoffe. (Prussia.—Materialprüfungsamt. Mitteilungen, Berlin, Jahrg. 24, 1906, p. 289-291.)

VA

Untersuchungen über Eisengallustinten. Mitteilung 5.

237. — Ueber einige Anwendungen physikalisch-chemischer Verfahren auf technische Fragen. (Seventh International Congress of Applied Chemistry, London, 1909. [Pro-

ceedings,] Section 10, London, 1910, p. 152-157.)

PKR

Application of physico-chemical methods to the analysis of inks.

For abstract see Society of Chemical Industry. *Journal*, London, v. 28, 1909, p. 713-714, VOA.

238. — Über Schreibtinte und ihre Prüfung. (Verein zur Beförderung des Gewerbflusses. Sitzungsberichte, Berlin, 1908, p. 64-94.)

VA

239. — Die Untersuchung von Eisengallustinten. Stuttgart: Ferdinand Enke, 1909. 140 p. 8°. (Die chemische Analyse. Bd. 6.)

VOP

Deals thoroughly with chemical analysis.

— See also Rothe, J., and F. W. HINRICHSEN.

240. Hinrichsen, Friedrich Willy, and ERICH KEDESZY. Über die Anwendung der Bestimmungsweisen für Gerb- und Gallussäure auf Auszüge verschiedener Gerbmateriale. (Prussia.—Materialprüfungsamt. Mitteilungen, Berlin, Jahrg. 27, 1909, p. 48-56.)

VA

Untersuchungen über Eisengallustinten. Mitteilung 10.

See also Society of Chemical Industry. *Journal*, London, v. 28, 1909, p. 831-832, VOA.

241. — Über die Haltbarkeit von Eisengallustinten. (Prussia.—Materialprüfungsamt. Mitteilungen, Berlin, Jahrg. 25, 1907, p. 317-321.)

VA

Untersuchungen über Eisengallustinten. Mitteilung 9.

Abstracts in *Chemical abstracts*, Easton, Penn., v. 2, 1908, p. 1888, PKA; *Chemisches Zentralblatt*, Berlin, Folge 5, Jahrg. 12, 1908, p. 1336-1337, PKA.

242. — Über die jodometrische Bestimmung von Gerb- und Gallussäure. (Prussia.—Materialprüfungsamt. Mitteilungen, Berlin, Jahrg. 25, 1907, p. 244-261.)

VA

Untersuchungen über Eisengallustinten. Mitteilung 7.

Abstract in *Chemical abstracts*, Easton, Penn., v. 2, 1908, p. 1670, PKA; *Chemisches Zentralblatt*, Berlin, Folge 5, Jahrg. 12, 1908, p. 990-991, PKA; *Chemical Society. Journal: Abstracts*, London, v. 94, part 2, 1908, p. 544, PKA.

243. — Über die Titration der Gerb- und Gallussäure. (Prussia.—Materialprüfungsamt. Mitteilungen, Berlin, Jahrg. 25, 1907, p. 43-48.)

VA

Untersuchungen über Eisengallustinten. Mitteilung 6.

244. — Über die Untersuchung von Eisengallustinten. (*Chemiker-Zeitung*, Cöthen, Jahrg. 30, Semester 2, 1906, p. 1301.)

VOA

Abstract in *Chemical abstracts*, Easton, Penn., v. 1, 1907, p. 783-784, PKA.

245. Hinrichsen, Friedrich Willy, and RICHARD KEMPF. Über den Einfluss der Luftbeschaffenheit und der Temperatur des Cersuchsraumes auf den Ausfall der Haltbarkeitsprobe bei Eisengallustinten. illus.

(Prussia. — Materialprüfungsamt. Mitteilungen, Berlin, Jahrg. 32, 1914, p. 536-538.)

VA

Untersuchungen über Eisengallustinten. Mitteilung 13.

Abstract in Society of Chemical Industry. *Journal*, London, v. 34, 1915, p. 1260-1261, *VOA*; *Chemisches Zentralblatt*, Berlin, Folge 5, Jahrg. 19, p. 809-810, *PKA*; *Chemical abstracts*, Easton, Penn., v. 9, 1915, p. 2155, *PKA*.

246. **Hinrichsen**, Friedrich Willy, and EUGEN SACHSEL. Über die Bildungs- und Löslichkeitsverhältnisse der Doppelchloride des Eisens und der Alkalimetalle. (Zeitschrift für physikalische Chemie, Leipzig, Bd. 50, 1905, p. 81-99.) **PKA**

247. **Hlasiwetz**, H. Ueber die Beziehungen der Gerbsäuren, Glucoside, Phlobaphene und Harze. (Journal für praktische Chemie, Leipzig, Bd. 105, 1868, p. 360-383.) **PKA**

248. **Hochstetter**, Robert. The relation of the printer to the ink maker. (British printer, London, v. 28, 1915, p. 25-26, 63-64.) **†* IPA**

The vice-president of the Ault and Wiborg Company offers suggestions on the use of printing ink.

249. **Hoefer**, Jean Chrétien Ferdinand. Histoire de la chimie. Paris: Firmin Didot frères, fils, et C^e, 1866-69. 2 v. 2. ed. 8^e.

See index.

PKB

Hofmann, J., joint author. See **Robertson**, A., and J. **HOFMANN**.

250. **Holding**, H. B. Modern improvements in black ink making. (Penrose's annual, London, v. 13, 1907-08, p. 61-63.) **MDSA**

Describes manufacture of carbon black.

251. **Holmes**, Fred L. Reusing old newspapers for printing. illus. (Popular mechanics, Chicago, v. 38, 1922, p. 685-686.)

Use of bentonite.

VFA

252. The **Home** of the Ullman doubletone — a famous U. S. A. ink factory. illus. (British printer, London, v. 24, 1911, p. 63-65.)

†* IPA

253. **How** carbon-black is made. (Inland printer, Chicago, v. 15, 1895, p. 601.) **†* IPA**

254. **How** to make gold ink. (Inland printer, Chicago, v. 35, 1905, p. 862.) **†* IPA**

255. **How** a pressman succeeded with copying ink. (Inland printer, Chicago, v. 30, 1903, p. 912.) **†* IPA**

256. **How** to prevent ink from rubbing off enameled surfaces. (Inland printer, Chicago, v. 23, 1899, p. 347.) **†* IPA**

257. **How** printing ink dries. (British printer, London, v. 25, 1912, p. 96-97.)

†* IPA

258. **How** waste paper is used in paper mills. Paper shortage would be reduced and householders make pin money by paper saving. (Scientific American supplement, New York, v. 83, 1917, p. 155.) **VA**

Brief description of de-inking.

259. **Huber**, J. M. Testing and drying inks. (British printer, London, v. 30, 1918, p. 257.)

†* IPA

260. **Illuminating Engineering Society**. — Committee on Glare. Diffusing media. III. Paper and inks. illus. (Illuminating Engineering Society. Transactions, v. 10, 1915, p. 379-387.) **VOK**

Includes tests on printing and writing inks.

261. **Immoderate** reducing of ink. (Inland printer, Chicago, v. 43, 1909, p. 568.) **†* IPA**

Trouble with printing on blotting-paper.

262. **India** ink. (Engineering news, New York, v. 11, 1884, p. 157.) **VDA**

263. **Indian** ink. (All the year round, London, new series, v. 41, 1887, p. 329-332.)

*** DA**

264. **Indulin-Tinte**. (Dinglers polytechnisches Journal, Augsburg, Bd. 207, 1873, p. 430.) **3 - VA**

See also Chemical Society. *Journal*, London, v. 26, 1873, p. 959, *PKA*.

The above are abstracts referring to the recipe of Couper and Collin.

265. The **Ink** of the ancients. (Society of Chemical Industry. *Journal*, London, v. 21, 1902, p. 196.) **VOA**

Examination of ink remains found in bronze cylinders in ruins of Roman villa at Vertault, France.

266. **Ink** does not lift properly. (Inland printer, Chicago, v. 43, 1909, p. 245.) **†* IPA**

267. **Ink** drying slowly. (Inland printer, Chicago, v. 43, 1909, p. 405.) **†* IPA**

268. **Ink** drying slowly. (Inland printer, Chicago, v. 47, 1911, p. 104.) **†* IPA**

Suggestion for bronze-blue.

269. An **Ink** eradicator. (Inland printer, Chicago, v. 33, 1904, p. 556.) **†* IPA**

270. **Ink** fades. (Inland printer, Chicago, v. 43, 1909, p. 405.) **†* IPA**

Recommends the use of alkaline proof ink.

271. The **Ink** man to the printer. (British printer, London, v. 31, 1918-19, p. 213-214.) **†* IPA**

272. **Ink** not lifting properly. (Inland printer, Chicago, v. 42, 1909, p. 578.) **†* IPA**

273. **Ink** pellets. (Chemical review, London, v. 11, 1882, p. 262.) **3 - VOA**

See also Society of Chemical Industry. *Journal*, London, v. 1, 1882, p. 388, *VOA*.

274. **Ink** to print on rubber and not rub off. (Inland printer, Chicago, v. 31, 1903, p. 733.) **†* IPA**

275. **Ink** for printing on leather. (Inland printer, Chicago, v. 30, 1903, p. 575.) **†* IPA**

276. **Ink** for printing on linen. (Inland printer, Chicago, v. 31, 1903, p. 734.) **†* IPA**

277. An **Ink** for printing out. (British journal of photography, London, v. 56, Jan. 29, 1909, p. 86.) **MFA**

- 278. Ink-proving** colour blocks. (British journal of photography, London, v. 60, March 14, 1913, p. 213.) **MFA**
Apparatus of Wratten and Wainwright.
- 279. Ink pump.** (Inland printer, Chicago, v. 44, 1909, p. 409.) **†* IPA**
- 280. Ink reducer and effect.** (Inland printer, Chicago, v. 25, 1900, p. 795.) **†* IPA**
Formula.
- 281. Ink reducers and driers.** (Inland printer, Chicago, v. 31, 1903, p. 231.) **†* IPA**
- 282. Ink and rollers.** (Scientific American, New York, v. 89, 1903, p. 344.) **VA**
- 283. Ink for rubber stamps.** (Scientific American supplement, New York, v. 55, 1903, p. 22699.) **VA**
- 284. Ink rubs off.** (Inland printer, Chicago, v. 43, 1909, p. 881.) **†* IPA**
Use of drier for broom labels.
- 285. Ink rubs off and does not dry.** (Inland printer, Chicago, v. 41, 1908, p. 587.) **†* IPA**
Failure of ink on satin proof stock, using a tint block.
- 286. Ink for silk ribbon.** (Inland printer, Chicago, v. 42, 1908, p. 264.) **†* IPA**
- 287. Ink slow in drying.** (Inland printer, Chicago, v. 27, 1901, p. 713.) **†* IPA**
Suggestion for overcoming.
- 288. An Ink solvent.** (Inland printer, Chicago, v. 39, 1907, p. 870.) **†* IPA**
"Dead oil" (carbolic acid) for removing dry ink from rollers.
- 289. Ink that holds on one thickness of coated paper but not on another.** (Inland printer, Chicago, v. 30, 1902, p. 53.) **†* IPA**
- 290. Ink too strong for the coated paper.** (Inland printer, Chicago, v. 29, 1902, p. 787.) **†* IPA**
- 291. Ink for writing on glass.** (American Pharmaceutical Association. Proceedings, Philadelphia, 1870, p. 161.) **WTA**
- 292. Inks.** (Engineer, London, v. 123, 1917, p. 415.) **† VA**
Included in a continued article entitled "What industry owes to science." Historical and general.
- 293. Inks for colour printing.** (British printer, London, v. 28, 1915, p. 123.) **†* IPA**
- 294. Inks for rubber stamps.** Glycerine the best medium. illus. (India rubber journal, London, v. 62, 1921, p. 578.) **VMV**
Investigation at the British General Postoffice.
Abstracted in Society of Chemical Industry. *Journal*, London, v. 40, 1921, p. 780A, **VOA**.
- 295. Inks for use on glass.** (Chemical abstracts, Easton, Penn., v. 1, 1907, p. 770.) **PKA**
Abstract from *Diamant*.
- 296. Insufficient drier.** (Inland printer, Chicago, v. 43, 1909, p. 103-104.) **†* IPA**
Use of drier in label printing.
- 297. Invention** for deinking newsprint paper. (Paper, New York, v. 22, March 13, 1918, p. 23.) **VMPA**
Description of patent issued to J. J. Werst (U. S. 1249575 of 1917).
- 298. Invisible ink.** (Inland printer, Chicago, v. 58, 1916, p. 382.) **†* IPA**
- 299. Iorio, Adrian J.** Making the ideal catalogue: ink, its qualities and specifications. (British printer, London, v. 27, 1914, p. 205-207.) **†* IPA**
- 300. Irvine, Robert.** Note on the action of bleaching agents upon writing-ink as a means of detecting fraud. (Society of Chemical Industry. *Journal*, London, v. 6, 1887, p. 807-808.) **VOA**
Abstract in Chemical Society. *Journal: Abstracts*, London, v. 54, 1888, p. 764, **PKA**.
- 301. J., H.** Blue marking ink. (Society of Chemical Industry. *Journal*, London, v. 2, 1883, p. 276.) **VOA**
- 302. Jacobi, Charles Thomas.** Printing. A practical treatise on the art of typography as applied more particularly to the printing of books. London: George Bell & Sons, 1908. 3 p.l., (i)viii-xxiii, 409(1) p., 1 l., 16 specimens of paper. 4. ed. rev. illus. 12°. *** IPR**
Brief general chapters on printers' ink.
- 303. Jacobsen, Emil.** Copirtintenstifte. (Chemisch-technisches Repertorium, Berlin, [Jahrg.] 1874, Halbjahr 2, p. 62-63.) **VOA**
- 304. —** Waschächte schwarze Zeichentinte. (Chemisch-technisches Repertorium, Berlin, Bd. 5, 1866, Halbjahr 1, p. 2.) **VOA**
Also in *Dingler's polytechnisches Journal*, Augsburg, Bd. 183, 1867, p. 78, 3-VA; *Polytechnisches Notizblatt*, Mainz, Jahrg. 21, 1866, p. 377-378, VA.
- 305. Jacquemin, E.** Le pyrogallol en présence des sels de fer. (Académie des sciences. Comptes rendus, Paris, tome 77, 1873, p. 593-596.) *** EO**
Abstract in *Chemical news*, London, v. 28, 1873, p. 194, **PKA**.
- 306. Jameson, J.** On security of documents. (Society of Chemical Industry. *Journal*, London, v. 4, 1885, p. 318.) **VOA**
Brief reference to the importance of mordants in inks.
- 307. Jameson, Lewis.** Manufacturers' practical recipes, by Lewis Jameson, assisted by leading English and foreign trade experts, works managers, and skilled mechanics. London: Lewis Jameson & Co. [1902-03.] 4 v. 8°. **VBA**
See v. 4, p. 597-721 for an unusually large number of recipes for writing fluids and copying media. See v. 2, p. 28-71 for printing inks and lithographic varnishes.
- 308. Jamieson, Alexander.** A dictionary of mechanical science, arts, manufactures, and miscellaneous knowledge . . . London: Henry Fisher, Son, & Co., 1827. iv, 1066 p. illus. 4°. **† VB**
See p. 513-514.

309. **Japan in inks.** (Inland printer, Chicago, v. 45, p. 750-751.) †* **IPA**

310. **Japanese writing accessories.** (Japan magazine, Tokyo, v. 2, May, 1911, p. 47-48.) * **OSA**

Also in *Scientific American supplement*, New York, v. 73, 1912, p. 115, *VA*.

311. **Jean, Ferdinand.** A propos du titrage du tannin par la solution d'iode; réponse à la note de M. Cormimboeuf. (*Annales de chimie analytique*, Paris, tome 12, 1907, p. 426-427.) **PKA**

312. — Dosage du tannin et de l'acide gallique. (*Annales de chimie analytique*, Paris, tome 5, 1900, p. 134-140.) **PKA**

313. — Observations sur le dosage du tannin assimilable et le titrage du tannin et de l'acide gallique. (*Annales de chimie analytique*, Paris, tome 3, 1898, p. 145-149.) **PKA**

314. **Jenkinson, Hilary.** A manual of archive administration; including the problems of war archives and archive making. Oxford: Clarendon Press, 1922. xviii, 243 p. 4°. (Economic and social history of the world war. British series.) * **SAD**

See index under *Ink* and *Materials*.

315. **Jenks, Tudor.** About old ink-stands. illus. (St. Nicholas, New York, v. 31, 1904, p. 532-536.) * **DA**

316. **Johnson, Charles.** The care of documents and management of archives. London: Society for Promoting Christian Knowledge, 1919. 47 p. 12°. (Helps for students of history. no. 5.) * **SAD**

See p. 31 for restoration of faded ink.

317. **Joly, A.** Alkalische Tinten. (*Deutsche chemische Gesellschaft. Berichte*, Berlin, Jahrg. 12, 1879, p. 209.) **PKA**

Refers to his Belgian patent 42374 of 1878.

318. **Jones, George D.** Typographic printing inks. (British printer, London, v. 31, 1918-19, p. 233-234.) †* **IPA**

Making ink by hand. Printing papers. Tint inks. Printing on parchment and linen.

319. **Joyce, C. M.** Chemical control of the process for de-inking paper. (*Chemical & metallurgical engineering*, New York, v. 25, 1921, p. 242.) **VOA**

320. **Julien, Stanislas.** Procédés des Chinois pour la fabrication de l'encre. (*Annales de chimie et de physique*, Paris, tome 53, 1833, p. 308-314.) **PAA**

321. **Kampmann, K.** Photolithographic ink containing gum Elemi. (*Society of Chemical Industry. Journal*, London, v. 9, 1890, p. 413.) **VOA**

322. **Kappa, pseud.** Printers' coloured inks. (English mechanic & world of science, London, v. 102, 1915, p. 166.) **VA**

Brief description of manufacture.

323. **Kassner, G.** Alte Tinte. (Jahres Bericht über die Leistungen der chemischen Technologie für 1908, Leipzig, N. F. Jahrg. 39, Abt. 2, p. 495.) **VOA**

Brief account of ink well and contents found in a Roman camp in Westphalia.

324. **Keating, E. M.** The relations of paper, type and ink. illus. (Inland printer, Chicago, v. 50, 1913, p. 683-687.) †* **IPA**

Interesting photomicrographs of the printed letter.

325. **Kedesdy, Erich.** Tinte und Tintenprüfung. (*Papier Zeitung*, Berlin, Jahrg. 33, 1908, p. 2263-2264, 2297-2298, 2333.) †† 3 - **VMA**

Abstract in the *Analyst*, London, v. 33, 1908, p. 367-368, *PKA*; *Chemical abstracts*, Easton, Penn., v. 2, 1908, p. 3252-3253, *PKA*.

326. — Über den Nachweis von Gerb- und Gallussäure mittels Molybdänsäurelösung. (Prussia. — Materialprüfungsamt. Mitteilungen, Berlin, Jahrg. 25, 1907, p. 268-269.) **VA**

Untersuchungen über Eisengallustinten. Mitteilung 8.

Abstracts in *Chemical abstracts*, Easton, Penn., v. 2, 1908, p. 1670, *PKA*; *Chemisches Zentralblatt*, Berlin, Folge 5, Jahrg. 12, 1908, p. 991, *PKA*; *Chemical Society. Journal: Abstracts*, London, v. 94, part 2, 1908, p. 642, *PKA*.

— See also **Hinrichsen, Friedrich Willy**, and **ERICH KEDESZY**.

327. **Keenan, Thomas J.** How waste paper is treated to make new paper. An account of processes and difficulties to be overcome in removing printer's ink. illus. (*Scientific American*, New York, v. 115, 1916, p. 574-575.) **VA**

328. **Keghel, Maurice de.** Les encres d'imprimerie et leur fabrication. (*Revue de chimie industrielle*, Paris, tome 31, 1922, p. 45-54, 111-117, 143-147, 174-176, 232-235, 259-265, 315-320, 339-345.) **VOA**

329. **Kempf, Richard.** Selbsttätige Vorrichtung zum Ausziehen von Eisengallustinten mit Essigester. (Prussia. — Materialprüfungsamt. Mitteilungen, Berlin, Jahrg. 31, 1913, p. 451-455.) **VA**

Untersuchungen über Eisengallustinten. Mitteilung 12.

Abstract in *Society of Chemical Industry. Journal*, London, v. 33, 1914, p. 306, *VOA*; *Chemical abstracts*, Easton, Penn., v. 8, 1914, p. 2069, *PKA*.

330. — Über die gewichtanalytische Bestimmung der Gerb- und Gallussäure. (Prussia. — Materialprüfungsamt. Mitteilungen, Berlin, Jahrg. 33, 1915, p. 241-270; Jahrg. 34, 1916, p. 380-386; Jahrg. 35, 1917, p. 47-52.) **VA**

Untersuchungen über Eisengallustinten. Mitteilung 14-16.

Abstracts in *Chemical abstracts*, Easton, Penn., v. 11, 1917, p. 1755, *PKA*; *Chemisches Zentralblatt*, Berlin, Folge 5, Jahrg. 20, Th. 1, 1916, p. 1279, *PKA*.

— See also **Hinrichsen, Friedrich Willy**, and **RICHARD KEMPF**.

331. **Klaproth**, Martin Heinrich, and **F. WOLFF**. Dictionnaire de chimie. Traduit de l'allemand, avec des notes, par E. J. B. Bouillon-Lagrange et par H. A. Vogel. Paris: Klostermann, 1810-11. 4 v. 8°.

PKF

See tome 2, p. 282-288 for writing, Chinese, and sympathetic inks.

332. **Knapp**. Ueber die sogen. Chromtinte und deren Bereitung. (Dingler's polytechnisches Journal, Stuttgart, Bd. 296, 1895, p. 188-189.) **3-VA**

See also Society of Chemical Industry. Journal, London, v. 14, 1895, p. 799, **VOA**.

333. **Knecht**, Edmund, and **J. B. FOTHERGILL**. The principles and practice of textile printing. London: C. Griffin & Co., Ltd., 1912. xvi, 615 p., 3 plans, 10 pl. illus. 8°. **VLG**

334. **Koehler**, Hippolyt. Die Fabrikation des Russes und der Schwärze aus Abfällen und Nebenprodukten, mit besonderer Berücksichtigung der Entfärbungskohle. Braunschweig: Friedr. Vieweg & Sohn, 1912. viii, 228 p. 3. ed. illus. 4°. (Neues Handbuch der chemischen Technologie; zugleich als dritte Folge von Bolley's Handbuch der chemischen Technologie. [Bd. 5.]) **VOE**

335. **Koppe**, Siegfried Walter. Das Glycerin. Seine Darstellung, Anwendung und Ermittlung, für Chemiker, Parfümeure, Seifenfabrikanten, Apotheker, Sprengtechniker und Industrielle. Wien und Leipzig: A. Hartleben, 1913. vii, 196 p. 2. ed. 12°. (A. Hartleben's chemisch-technische Bibliothek.) **VOF**

See chapter 12: Das Glycerin in der Tintenfabrikation. Recipes for hectograph and copying inks.

336. **Kostanecki**, St. von. Ueber nitrosirte Resorcinazofarbstoffe. (Deutsche chemische Gesellschaft. Berichte, Berlin, Jahrg. 21, 1888, p. 3109-3114.) **PKA**

337. — Zur Kenntniss der beizenfärbenden Farbstoffe. (Deutsche chemische Gesellschaft. Berichte, Berlin, Jahrg. 20, 1887, p. 3146-3149; Jahrg. 22, 1889, p. 1347-1353.) **PKA**

— See also **Liebermann**, C., and **St. von Kostanecki**.

338. **Kostanecki**, St. von, and **St. NIEMEN-TOWSKI**. Ueber die isomeren Dioxydimethylanthrachinone. (Deutsche chemische Gesellschaft. Berichte, Berlin, Jahrg. 18, 1885, p. 2138-2141.) **PKA**

339. **Kreis**, H. Gerbextrakte. (Chemiker-Zeitung, Cöthen, Bd. 30, 1906, p. 768.) **††VOA**

340. **Kressler**, Carl. Anfertigung einer schönen rothen Tinte. (Polytechnisches Notizblatt, Mainz, Bd. 4, 1849, p. 106-107.) **VA**

341. **Kressler**, E. Reinigung des Krapplacks zur Herstellung einer möglichst lasirenden Farbe zur feineren Oelmalerei, nebst An-

fertigung einer rothen Krapptinte. (Polytechnisches Notizblatt, Mainz, Jahrg. 1, 1846, p. 203-204.) **VA**

342. **Kuehn**, Curt. Über den Wert der Zählung feinkörniger Substanzen. (Zeitschrift für angewandte Chemie, Leipzig, Jahrg. 15, Theil 1, p. 126-128.) **PKA**

Adapts the physiological method of counting blood corpuscles to the examination of finely powdered pigments.

343. **Kunz-Krause**. Über die Farben- und Fällungsreaktionen der Tannoide und deren Abhängigkeit von der Natur, bzw. Konstitution des einen, bzw. der beiden Reaktionskomponenten. (Chemisches Centralblatt, Berlin, Folge 5, Jahrg. 2, Theil 2, 1898, p. 945-946.) **PKA**

344. **Lange**, Otto. Chemisch-technische Vorschriften... Leipzig: Otto Spamer, 1923-24. 4 v. 3. ed. 4°. **VO**

Bd. 3, p. 212-233 has an excellent annotated bibliography of processes covering a large variety of inks.

345. **Langer**, Alfons. Die Herstellung von Tusch- und Stempelfarben. (Chemiker-Zeitung, Cöthen, Jahrg. 44, 1920, p. 951-952.) **VOA**

General discussion of usual methods.

346. **Lavay**, Jerome Buell. Disputed handwriting; an exhaustive, valuable, and comprehensive work upon one of the most important subjects of to-day. With illustrations and expositions for the detection and study of forgery by handwriting of all kinds. Chicago: Harvard Book Co. [cop. 1909.] xvi, 304 p. illus. 8°. ***ICL**

See chapters 13 and 14.

347. **Lederlin**, P. Blanchiment, teinture, impression, apprêts. Paris: J. B. Bailliére et fils, 1923. 543 p. illus. 8°. (Encyclopédie de chimie industrielle.) **VLG**

348. **Lehner**, Sigmund. Die Tinten-Fabrikation. Darstellung der Anfertigung aller Tinten, der Tusche, Tintenstifte, lithographischen Stifte und Tinten, unauslöschlicher Tinten zum Zeichnen der Wäsche, der Hektographenmassen, der Farben für Schreibmaschinen usf., des Waschblaus und der Stempeldruckfarben. 7. ed. rev. & enl. Wien: A. Hartleben, 1922. xii, 224 p. illus. 12°. (Chemisch-technische Bibliothek. Bd. 17.) **VOPB**

Library also has 3. ed., 1885, and 4. ed., 1890.

349. **Leicester**, Sheldon. Practical studies for paper manufacturers and all engaged in the industry, being a handbook based on lectures given to students, apprentices, artisans in paper works and others, having special reference to the manufacture of paper and its uses by printers, lithographers, ink manufacturers, stationers, publishers and others handling paper. London: Charles Griffin & Co., Ltd., 1924. viii, 363 p. illus. 8°. **VMP**

See index for adaptability of inks to various kinds of paper. See p. 290-293 for testing resistance of paper to ink.

350. Leidié, E. Untersuchung einer alten Tinte. (Chemisches Central-Blatt, Berlin, Folge 5, Jahrg. 6, [Teil] 1, p. 383.) **PKA**

Investigation of black substance found in Roman city of Vertillum. Abstract only.

351. Lemaire, Eugène. La restauration des parchemins altérés par le feu. illus. (La nature, Paris, tome 36, 1908, p. 87-92.) **OA**

Also in *Scientific American supplement*, New York, v. 66, Sept. 26, 1908, p. 205-206, *VA*.

352. Lémery, Louis. Éclaircissement sur la composition des différentes espèces de vitriols naturels, & explication physique & sensible de la manière dont se forment les ancrs vitrioliques. (Académie royale des sciences. Mémoires, Paris, année 1707, p. 538-549.) ***EO**

353. Lenz, W. Zur Prüfung der Tinten. (Zeitschrift für analytische Chemie, Wiesbaden, Jahrg. 31, 1892, p. 116-120.) **PKA**

See also Society of Chemical Industry. *Journal*, London, v. 11, 1892, p. 273, *VOA*.

Abstract from *Die Eisengallustinten*, by Schluttig and Neumann.

354. Leonhardi, August. Bereitung der Alizarin-Tinte. (Dingler's polytechnisches Journal, Stuttgart, Bd. 142, 1856, p. 141-142.) **3-VA**

Description of his patent. See also *Polytechnisches Centralblatt*, Leipzig, N. F. Jahrg. 11, 1857, p. 478, *VA*.

355. Lewis, William. *Commercium philosophico-technicum; or, The philosophical commerce of arts: designed as an attempt to improve arts, trades, and manufactures.* London: H. Baldwin, 1763. 2 p.l., xviii, x, 646 p., 7 l. illus. 4°. **V (Room 120)**

See p. 339-401 for soot blacks, iron and gall, recipes for writing inks, printing ink, experiments to secure durability of writing and printing inks. A noteworthy work.

356. Liebermann, C. Zur Theorie der Beizenfarbstoffe. (Deutsche chemische Gesellschaft. Berichte, Berlin, Jahrg. 41, 1908, p. 1436-1444.) **PKA**

357. — Zur Theorie der Beizfärbungen. (Deutsche chemische Gesellschaft. Berichte, Berlin, Jahrg. 26, 1893, p. 1574-1578.) **PKA**

358. Liebermann, C., and St. von KOSTANECKI. Ueber einige von der Stellung bedingte Reactionen. (Deutsche chemische Gesellschaft. Berichte, Berlin, Jahrg. 18, 1885, p. 2142-2149.) **PKA**

359. Liebermann, C., and W. WENSE. Zur Kenntniss der färbenden Oxyanthrachinone. (Deutsche chemische Gesellschaft. Berichte, Berlin, Jahrg. 20, 1887, p. 862-866.) **PKA**

360. Liebig, Justus. Ueber die Zusammensetzung der Gerbesäure und der Gallussäuren. (Journal für praktische Chemie, Leipzig, Bd. 2, 1834, p. 321-327.) **PKA**

361. Link. Vorschrift zu einer tiefschwarzen neutralen Tinte. (Dingler's polytechnisches Journal, Augsburg, Bd. 168, Jahrg. 1863, p. 468.) **3-VA**

362. Lippmann, Edmund Oskar von. Entstehung und Ausbreitung der Alchemie; mit einem Anhang: Zur älteren Geschichte der Metalle... Berlin: Julius Springer, 1919. xvi, 742 p. 4°. **PKD**

References to ancient and mediaeval inks. See index.

363. Lloyd, Stewart J. Preliminary note on the constitution of gallotannic acid and of tannins in general. (Chemical news, London, v. 97, March 20, 1908, p. 133.) **PKA**

364. Loeffl. Entfernen der Druckerschwärze von Zeitungspapier. (Chemiker-Zeitung, Cöthen, Jahrg. 45, 1921, p. 986.) **VOA**

365. Loewe, Julius. Ueber Sumachgerbsäure. (Zeitschrift für analytische Chemie, Wiesbaden, Jahrg. 12, 1873, p. 128-136.) **PKA**

366. — Ueber die Umwandlung der Gallussäure in Gerbsäure. (Journal für praktische Chemie, Leipzig, Bd. 102, 1867, p. 111-120.) **PKA**

Lorenz, Fritz, joint author. See **Specht**, Leopold, and **FRITZ LORENZ**.

367. Lovibond, Joseph W. On the fading of inks and pigments. illus. (Society of Chemical Industry. Journal, London, v. 24, 1905, p. 262-265.) **VOA**

368. Lucas. Ueber Hervorbringung einer unzerstörbaren Schrift. (Polytechnisches Centralblatt, Leipzig, N. F. Jahrg. 17, 1863, p. 1517.) **VA**

369. Lucas, Alfred. Forensic chemistry. London: Edward Arnold & Co., 1921. vii, 268 p. tables. 8°. **PPL**

See chapter 6, p. 74-123, on documents. Bibliography.

370. — The inks of ancient and modern Egypt. (Analyst, Cambridge, England, v. 47, 1922, p. 9-15.) **PKA**

371. — Legal chemistry and scientific criminal investigation. London: Edward Arnold, 1920. viii, 181(1) p., 1 l. tables. 8°. **PPL**

See p. 65-102.

372. Luminous printing ink. (Inland printer, Chicago, v. 39, 1907, p. 738.) **†* IPA**

373. Lumpy ink. (Inland printer, Chicago, v. 45, 1910, p. 247.) **†* IPA**

374. Lunéville, C. Marchal de. Technologie de la Chine. illus. (L'Illustration, Paris, tome 25, 1855, p. 37-38.) ***DM**

Illustration shows manufacture of Chinese ink.

Luther, R., joint author. See **Ostwald**, Wilhelm, and **R. LUTHER**.

375. M., D. Runge's Chromtinte. Von W. Stein in Dresden. (Polytechnisches Centralblatt, Leipzig, N. F. Jahrg. 3, 1849, p. 1471.)

VA

Also in *Dingler's polytechnisches Journal*, Stuttgart, Bd. 115, 1850, p. 77, 3-VA.

376. McConnell, William J. Industrial dermatosis among printers. (United States.—Public Health Service. Public health reports, Washington, v. 36, 1921, p. 979-989.)

SPB

Ink poisoning which affects the hands and arms of printers who work constantly with colored inks.

377. MacKellar, Thomas. The American printer: a manual of typography... Philadelphia: MacKellar, Smiths & Jordan, 1885. 1 p.l., iii-xiv, 13-384 p. [15. ed.] illus. 12°.

*IPR

Treats briefly of colored inks and color harmony.

378. Maddox, Harry A. Effect of chemical residues in paper upon printing inks. (Chemical abstracts, Easton, Penn., v. 7, 1913, p. 1415.)

PKA

379. Mairet, F. Notice sur la lithographie suivie d'un essai sur la reliure et le blanchiment des livres et gravures. Châtillon-sur-Seine: C. Cornillac, 1824. 228 p., 4 pl. 12°.

MDP

See p. 20-24.

380. Management of inks. (Inland printer, Chicago, v. 4, 1886-87, p. 109, 286.) †*IPA

381. Manea, A. Methode zur Ermittlung der Gallusgerbsäuren in den Gerbstoffmaterialien. (Chemisches Centralblatt, Berlin, Folge 5, Jahrg. 10, Theil 1, 1906, p. 406.)

PKA

382. Mangold, Christian. India ink—how it is made. (Scientific American supplement, New York, v. 54, 1902, p. 22202-22203.)

VA

383. Manoylov, E. O. Bacteria in writing inks. (Chemical abstracts, Easton, Penn., v. 7, 1913, p. 3141.)

PKA

384. The Manufacture of India ink. (Scientific American supplement, New York, v. 58, 1904, p. 24187.)

VA

385. Manufacture of marking ink in Mexico. (Society of Chemical Industry. Journal, London, v. 23, 1904, p. 771.)

VOA

Use of the pulp of the *Eseleloahniil* tree.

386. The Manufacture of printing ink. A brief note for students at trade classes. (British printer, London, v. 28, 1915-16, p. 229.)

†*IPA

387. Many inks are becoming costly. (British printer, London, v. 28, 1915-16, p. 195.)

†*IPA

Effect of war on prices.

388. Marcusson, J. Die technischen Cumaronharze. (Chemiker-Zeitung, Cöthen,

Jahrg. 43, 1919, p. 93-94, 109-111, 122-123.)

VOA

Abstract in *Chemical abstracts*, Easton, Penn., v. 13, 1919, p. 2607-2608, PKA.

Used in making certain types of very satisfactory printing inks.

389. Margival, François. Les encres. Paris: Gauthier-Villars [1912]. 162 p. 12°. (Encyclopédie scientifique des aide-mémoire.)

VOPB

390. Marking ink. (American Pharmaceutical Association. Proceedings, Philadelphia, v. 17, 1869, p. 161.)

WTA

391. Marking ink with base of aniline hydrochlorate. (Scientific American supplement, New York, v. 63, 1907, p. 26092.)

VA

Three formulas.

392. Marr, Robert A. Waste paper recovery process. (Paper, New York, v. 29, no. 15, p. 28-29.)

VMPA

Account of his U. S. patent 1396227 of 1921.

393. Marre, Francis. Restoring books and papers injured by fire. (Scientific American supplement, New York, Sept. 14, 1918, p. 165.)

VA

394. Martell, Paul. Einige Beiträge zur Geschichte der Tinte. (Zeitschrift für angewandte Chemie, Leipzig, Jahrg. 26, Aufsatzteil, 1913, p. 197-199.)

PKA

References to ancient and mediæval writings.

395. Martin, Geoffrey. Industrial and manufacturing chemistry. Part 1. Organic. London: Crosby Lockwood & Son, 1918. xx, 744 p. 4. ed. rev. & enl. illus. 4°.

VOE

See chapter entitled: The ink industry, p. 489-494.

396. Mason, Claude D. Ordinary writing fluid for marking porcelain crucibles. (Journal of industrial and engineering chemistry, Easton, Penn., v. 4, 1912, p. 691.)

VOA

397. May, Joseph O. "Doping" inks. (Inland printer, Chicago, v. 57, 1916, p. 763-764.)

†*IPA

398. — The printer and the inkman. (Inland printer, Chicago, v. 60, 1917, p. 331-332.)

†*IPA

399. Meadowcroft, W. Common or "news" ink. (British printer, London, v. 33, 1920, p. 76.)

†*IPA

Rough methods of judging quality.

400. Mecklenburg, Werner. Über einige physikalische Eigenschaften der Tinten. (Prussia.—Materialprüfungsamt. Mitteilungen, Berlin, Jahrg. 35, 1917, p. 214-234.)

VA

Abstracts in *Chemical abstracts*, Easton, Penn., v. 14, 1920, p. 130, PKA; *Chemisches Zentralblatt*, Berlin, Folge 5, Jahrg. 22, Theil 2, p. 160, PKA.

Seven commercial inks were examined to determine their specific weights, fineness of pulverization, and covering power. Results were compared with behavior of inks when used.

401. — Über die Schwärze von Tintenflecken auf Papier. illus. (Prussia. — Materialprüfungsamt. Mitteilungen, Berlin, Jahrg. 34, 1916, p. 387-435; Jahrg. 35, 1917, p. 134-159; Jahrg. 38, 1920, p. 35-62.) **VA**
See Society of Chemical Industry. *Journal*, London, v. 40, 1921, p. 708A, *VOA*; *Zeitschrift für Elektrochemie*, Leipzig, v. 22, 1916, p. 23-27; *Chemical abstracts*, Easton, Penn., v. 16, 1922, p. 3004, *PKA*.
— See also Bauer, O., and WERNER MECKLENBURG.
402. Mees, Charles Edward Kenneth. Tricolor printing inks. (Knowledge, London, new series, v. 8, 1911, p. 323.) **OA**
403. Melcher, Webster Adam. Light and color phenomena. A new study based on an original investigation and its results. (Textile colorist, New York, v. 45, 1923, p. 219-222.) **VLA**
Experiments with the aging of writing in daylight, yellow, red and blue light, and in the dark.
404. — Mechanical ink marks; a study of mechanograms, as means of identifying marks made by mechanical appliances, and detecting imitations thereof. Philadelphia: the author, 1914. 27 p. 8°. **VOD p.v. 14, no. 10**
405. Merget. Darstellung einer Tinte zum Zeichnen und Schreiben auf Papier, Wäsche, Holz, etc. (Chemisches Centralblatt, Leipzig, Folge 3, Jahrg. 3, 1872, p. 444.) **PKA**
406. Metz, H. A. Aniline colours and their relation to printing ink pigments. (British printer, London, v. 30, 1917, p. 155-156.) **†* IPA**
407. Michaelis, Hugo. Entfernen der Druckschwärze von Zeitungspapier. (Chemiker-Zeitung, Cöthen, Jahrg. 45, 1921, p. 1118.) **VOA**
Quotes Goethe in relation to this subject.
408. Milham, E. G. Handling of old paper stock. Operations involved in making half-stuff from graded waste papers. (Paper, New York, v. 30, no. 15, 1922, p. 7-10.) **VMPA**
409. Miller, Alfred J. Removing ink stains from stucco and concrete. (Concrete, Detroit, v. 11, 1917, p. 123.) **VEA**
410. Miller, C. T. Help the ink maker to help you. (British printer, London, v. 35, 1922, p. 22.) **†* IPA**
411. Mitchell, Charles Ainsworth. The acidity of ink and the influence of bottle glass upon ink. (Analyst, London, v. 46, 1921, p. 129-135.) **PKA**
Abstract in Society of Chemical Industry. *Journal*, London, v. 40, 1921, p. 356a-357a, *VOA*.
412. — The chemistry of inks in handwriting. illus. (Knowledge, London, new series, v. 7, 1910, p. 387-390.) **OA**
Also printed in *Scientific American supplement*, New York, v. 71, 1911, p. 302-303, *VA*.
413. — Colloids in relation to the manufacture of inks. (British Association for the Advancement of Science. Fifth report on colloid chemistry, London, 1923, p. 47-50.) **PLD**
With brief bibliography.
414. — Copying-ink pencils and the examination of their pigments in writing. (Analyst, London, v. 42, 1917, p. 3-11.) **PKA**
Has analyses of pigments of twenty-one pencils.
415. — Documents and their scientific examination; with especial reference to the chemistry involved in cases of suspected forgery, investigation of disputed documents, handwriting, etc. London: Charles Griffin & Co., Ltd., 1922. xii, 215 p. illus. 12°. (Griffin's scientific text-books.) **PPL**
416. — English inks: their composition and differentiation in handwriting. (Analyst, London, v. 33, 1908, p. 80-85.) **PKA**
Has a table showing reactions given by samples of commercial inks.
See also Society of Chemical Industry. *Journal*, London, v. 27, 1908, p. 327-328, *VOA*; *Chemical abstracts*, Easton, Penn., v. 2, 1908, p. 1888, *PKA*.
417. — Estimation of the age of ink in writing. (Analyst, London, 1920, v. 45, p. 247-258.) **PKA**
Abstract in Society of Chemical Industry. *Journal*, London, v. 39, 1920, p. 577A, *VOA*; *Chemical abstracts*, Easton, Penn., v. 14, 1920, p. 2899-2900, *PKA*.
418. — The examination of handwriting. (Knowledge, London, new series, v. 4, 1907, p. 147-148.) **OA**
419. — Ink. London: Sir Isaac Pitman & Sons, Ltd. [1923,] ix, 128 p. illus. 12°. (Pitman's common commodities and industries.) **VOPB**
General work, with chapters on testing and permanency.
420. — Inks. (Royal Society of Arts. *Journal*, London, v. 70, 1922, p. 647-660.) **VA**
Cantor lectures. Much of historical interest.
Also printed in *Color trade journal*, New York, v. 11, 1922, p. 160-162, 212-214; v. 12, 1923, p. 23-26, 84-86, *VOA*.
Abstract in Society of Chemical Industry. *Journal*, London, v. 41, 1922, p. 93R-94R, *VOA*.
421. Mitchell, Charles Ainsworth, and T. C. HEPWORTH. Inks; their composition and manufacture, including methods of examination and a full list of English patents. London: Charles Griffin & Co., 1916. xvi, 266 p., 3 facsim., 1 pl. 2. ed. rev. illus. 8°. **VOPB**
Much of historical interest. Numerous references.

422. The **Mixing** of inks. (Inland printer, Chicago, v. 50, 1913, p. 737-738.) †* **IPA**
General article with suggested books.
423. **Mixing** inks to work in cold weather. (Inland printer, Chicago, v. 32, 1903, p. 256.) †* **IPA**
424. The **Mixing** and matching of colours. The ink maker's point of view. (British printer, London, v. 31, 1918, p. 24.) †* **IPA**
425. **Moigno**, F. Native vegetable ink. (Chemical news, London, v. 26, 1872, no. 659, p. 23.) **PKA**
Brief reference to ink-plant of New Granada.
426. **Monton**, Bernardo. Secretos de artes liberales, y mecanicas, recopilados, y traducidos de varios, y selectos autores, que tratan de phisica, pintura, arquitectura, optica, chimica, doradura, y charoles, con otras varias curiosidades ingeniosas. Madrid: Antonio Marin, 1734. 10 p.l., 140 p., 23 pl. 8°. **VBA**
Has a few recipes.
427. **Moxon**, Joseph. Moxon's Mechanick exercises; or, The doctrine of handy-works applied to the art of printing. A literal reprint in two volumes of the first edition published in the year 1683. With preface and notes by Theo. L. De Vinne. New York: The Typothetæ of the City of New York, 1896. 2 v. 4°. * **IPS**
See v. 1, p. 75-80 for process of making printers' ink, with comparisons of Dutch and English practices.
428. **Mozard**. Par brevets d'invention; nouvelles découvertes; papier de sureté, destiné à prévenir toute espèce de faux en écritures publiques ou privées et encre chimico-specimut, propre aux timbres et à l'impression des effets de commerce et de banque. [Par Mozard.] Paris: Ve. Delaguet, 1834. 16 p. 4°. †* **C p.v. 1587, no. 3**
429. **Mueller**, Julius. Bereitung einer guten Stempelfarbe. (Polytechnisches Notizblatt, Mainz, Jahrg. 29, 1874, p. 48.) **VA**
430. **Mueller**, M. Herstellung von Glastinte. (Dinglers polytechnisches Journal, Stuttgart, Bd. 250, 1883, p. 555-556.) 3- **VA**
See also Chemical Society. *Journal: Abstracts*, London, v. 46, 1884, p. 880, **PKA**.
431. **Munson**, L. S. The examination of writing inks. folded table. (American Chemical Society. *Journal*, v. 28, April, 1906, p. 512-516.) **PKA**
Author connected with United States Bureau of Chemistry. Tables give details of tests on thirty brands of ink.
Abstract in Chemical Society. *Journal: Abstracts*, London, v. 90, part 2, p. 405, **PKA**.
432. The **Mystery** of India ink. (Harper's weekly, New York, v. 54, 1910, p. 33.) * **DA**
433. **Nagawo**, K. Leucocytosis produced by the injection of India ink emulsion. (Chemical abstracts, Easton, Penn., v. 16, 1922, p. 3701.) **PKA**
Abstract from *Japan medical world*.
434. **Naquet**, Alfred Joseph. Legal chemistry. A guide to the detection of poisons, examination of stains, etc. as applied to chemical jurisprudence. Translated with additions from the French by J. B. Battershall... New York: D. Van Nostrand, 1876. 2 p.l., 178 p. illus. 12°. **PPL**
See p. 105-110.
435. **Nasse**, O. Eine neue Pyrogallol-Reaktion. (Deutsche chemische Gesellschaft. *Berichte*, Berlin, Bd. 17, 1884, p. 1166.) **PKA**
436. **Natural** ink. (Every Saturday, Boston, new series, v. 2, 1871, p. 463.) * **DA**
Use of "chanchi" juice from New Granada.
437. **Nernst**, Walther. Die elektromotorische Wirksamkeit der Ionen. (Zeitschrift für physikalische Chemie, Leipzig, Bd. 4, 1889, p. 129-181.) **PKA**
438. — Zur Kinetik der in Lösung befindlichen Körper. (Zeitschrift für physikalische Chemie, Leipzig, Bd. 2, 1888, p. 613-637.) **PKA**
439. **Neumann**, G. S., and **OSWALD SCHLUTTIG**. Tinte. (In: Muspratt's Theoretische, praktische und analytische Chemie, in Anwendung auf Künste und Gewerbe. Braunschweig, 1905. 4. ed. 4°. Bd. 8, p. 1274-1406.) **PKF**
Unusually comprehensive account of history, raw materials, and chemistry, with a large number of formulas.
— See also Schluttig, Oswald, and G. S. NEUMANN.
440. A **New** ink. (Cornell chemist, Ithaca, N. Y., v. 13, Feb., 1924, p. 24.) **PKA**
Ink for protecting checks. Invention of Professor W. R. Orndorff.
441. A **New** ink. (Inland printer, Chicago, v. 8, 1890, p. 179.) †* **IPA**
Use of bitumen.
442. **New** printing ink dyes. (British printer, Leicester, v. 30, 1917-18, no. 179, p. 196.) †* **IPA**
443. **New** transfer ink. (Scientific American supplement, New York, v. 56, 1903, p. 23348-23349.) **VA**
444. **Nickel**types for red ink. (Inland printer, Chicago, v. 42, 1909, p. 577.) †* **IPA**
Niementowski, St., joint author. See **Kostanecki**, St. von, and St. NIEMENTOWSKI.
445. **Nierenstein**, M. Über das Färbenvermögen der Gerbstoffe. (Chemiker-Zeitung, Cöthen, Jahrg. 30, Semestre 2, 1906, p. 1101-1102.) †† **VOA**

446. — Über das Tannin. (Chemiker-Zeitung, Cöthen, Jahrg. 31, 1907, p. 880.)

†† VOA

447. — Zur Constitutionsfrage des Tannins. (Deutsche chemische Gesellschaft. Berichte, Berlin, Jahrg. 38, 1905, p. 3641-3642; Jahrg. 40, 1907, p. 916-918; Jahrg. 41, 1908, p. 77-80, 3015-3019; Jahrg. 42, 1909, p. 1122-1126, 3552-3553; Jahrg. 43, 1910, p. 628-634.)

PKA

448. — Zur qualitativen Analyse der Gerbstoffe. (Chemiker-Zeitung, Cöthen, Bd. 30, 1906, p. 868.)

†† VOA

449. Noah, E. Synthese des Xanthopurpurins und Purpurins. (Deutsche chemische Gesellschaft. Berichte, Berlin, Jahrg. 19, 1886, p. 332-334.)

PKA

450. — Ueber Pentaoxyanthrachinon und Anthrachryson. (Deutsche chemische Gesellschaft. Berichte, Berlin, Jahrg. 19, 1886, p. 751-755.)

PKA

451. — Ueber zwei neue Tetraoxyanthrachinone. (Deutsche chemische Gesellschaft. Berichte, Berlin, Jahrg. 19, 1886, p. 2337-2340.)

PKA

452. O., G. E. Removing ink stains. (British journal of photography, London, v. 59, Aug. 30, 1912, p. 680-681.)

MFA

453. Obstinate ink. (Inland printer, Chicago, v. 23, 1899, p. 74.)

†* IPA

Suggestions for overcoming trouble with blue printing ink.

Oesterreicher, A., joint author. See Habermann, J., and A. OESTERREICHER.

454. An Official ink. (Scientific American supplement, New York, v. 49, 1900, p. 20325.)

VA

Law passed in Massachusetts.

455. Offset ink. (Inland printer, Chicago, v. 47, 1911, p. 253.)

†* IPA

456. Offsetting of process inks. (Inland printer, Chicago, v. 43, 1909, p. 568-569.)

†* IPA

457. Oils used in inkmaking. (Inland printer, Chicago, v. 45, 1910, p. 81.)

†* IPA

458. Osborn, Albert Sherman. Instruments and illustrations in disputed document trials. [New York, 1917?] 4 l. illus. 8°.

* IC p.v. 4, no. 11

459. — The problem of proof, especially as exemplified in disputed document trials; a discussion of various phases of the proof of the facts in a court of law, with some general comments on the conduct of trials ... Introduction by Professor John Henry Wigmore. New York: Matthew Bender & Co., Incorporated, 1922. xxi(i), 526 p. 8°.

XH

See index.

460. — Questioned documents; a study of questioned documents, with an outline of methods by which the facts may be discovered and shown. With an introduction by Professor John H. Wigmore. Rochester, N. Y.: Lawyers' Co-operative Publishing Co., 1910. 2 p.l., vii-xxiv, 501 p., 1 pl. illus. 4°.

* ICL

See index. Describes use of the color microscope.

461. Ost, Hermann. Lehrbuch der chemischen Technologie. Leipzig: Max Jänecke, 1923. viii, 815 p. 13. ed. illus. 8°.

VOE

See p. 678-679 for brief general chapter on writing inks.

462. Ostwald, Wilhelm, and R. LUTHER. Hand- und Hilfsbuch zur Ausführung physiko-chemischer Messungen. Leipzig: W. Engelmann, 1902. xii, 492 p. 2. ed. illus. 8°.

PLD

See p. 336 for description of Capillarelektrometer.

463. Ott, A. Vorzügliche Copirtinte. (Dingler's polytechnisches Journal, Augsburg, Jahrg. 1862, Bd. 165, p. 78.)

3 - VA

Also in *Polytechnisches Centralblatt*, Leipzig, N. F. Jahrg. 16, 1862, p. 831, VA; *Polytechnisches Notizblatt*, Mainz, Jahrg. 17, 1862, p. 240, VA.

Ozorovitz, H. H., joint author. See Silbermann, T., and H. H. Ozorovitz.

464. Paladino, Raffaele. Über die schwarze Kephalopodentinte. (Biochemische Zeitschrift, Berlin, Bd. 16, 1909, p. 37-44.)

PPB

Abstract in Chemical Society. *Journal: Abstracts*, 1909, part 2, p. 252, PKA.

Black secretion of *Eledone moscata*.

465. The Paper maker and the ink maker. (British printer, London, v. 29, 1916, p. 26.)

†* IPA

Defects in printing more often due to faulty paper.

466. Parker, J. Gordon, and E. E. MUNRO PAYNE. A new method for the analysis of tannin and tanning materials and the identification of admixtures in tanning extracts and liquors. (Society of Chemical Industry. Journal, London, v. 23, 1904, p. 648-651.)

VOA

467. Paternó, E. Ueber das Verhalten der Colloidsubstanzen gegen das Raoult'sche Gesetz. (Zeitschrift für physikalische Chemie, Leipzig, Bd. 4, 1889, p. 457-461.)

PKA

Payne, E. E. Munro, joint author. See Parker, J. Gordon, and E. E. MUNRO PAYNE.

468. Payne, Harold J. Use of de-inked stock in production of book paper. Outline of steps followed in the plant of the Newton Falls Paper Co., where the product is softened by the addition of de-inked paper stock to sulphite pulp. (Chemical & metallurgical engineering, New York, v. 29, 1923, p. 1176-1180.)

VOA

469. **Peddie, R. A.** The history of colour printing. (British printer, London, v. 27, 1914, p. 157-158, 217-218.) †* **IPA**
470. **Pelouze, J.** Mémoire sur le tannin et les acides gallique, pyrogallique, ellagique et métagallique. (Annales de chimie et de physique, Paris, tome 54, 1833, p. 337-365.) **PAA**
Also in *Journal für praktische Chemie*, Leipzig, Bd. 2, 1834, p. 301-321, **PKA**.
471. — Ueber die Zusammensetzung der Gerbesäure. (*Journal für praktische Chemie*, Leipzig, Bd. 2, 1834, p. 318-330.) **PKA**
472. **Permanence** of color in printing inks. (Inland printer, Chicago, v. 47, 1911, p. 729-730.) †* **IPA**
473. The **Permanence** of vermilion. (Inland printer, Chicago, v. 50, 1913, p. 573.) †* **IPA**
474. The **Permanency** of inks. (British printer, London, v. 30, 1917, p. 35.) †* **IPA**
475. **Philippi, Friedrich.** Einführung in die Urkundenlehre des deutschen Mittelalters. Bonn: Kurt Schroeder, 1920. viii, 256 p. 12°. (Bücherei der Kultur und Geschichte. Bd. 3.) * **IC**
See p. 47-51.
476. **Pictet, Raoul.** A new method for obtaining chemically pure oxygen from the atmosphere, its use for illuminating purposes, and a new method for obtaining pure hydrogen; utilization of the by-products for typographic inks. (Chemical abstracts, Easton, Penn., v. 7, 1913, p. 2667.) **PKA**
Abstract only. See also *Chemisches Zentralblatt*, Berlin, Folge 5, Jahrg. 17, Theil 1, 1913, p. 662, **PKA**.
By-product is lampblack.
477. **Pliny, the elder.** The natural history of Pliny. Translated with copious notes and illustrations by the late John Bostock and H. T. Riley. London: H. G. Bohn, 1855-57. 6 v. 12°. (Bohn's classical library.) * **R-PQC**
See index in v. 6.
478. **Porta, Giovanni Battista della.** Magiæ naturalis libri viginti... Lugd. Batavorum: Apud Hieronymum de Vogel, 1644. 8 p.l., 670 p., 11 l. 24°. **PKD**
See liber 16, p. 544-570 for sympathetic ink.
479. — Natural magick by John Baptista Porta, a Neapolitane: in twenty books... wherein are set forth all the riches and delights of the natural sciences. London: Printed for Thomas Young and Samuel Speed, 1658. 2 p.l., 409 p., 2 l. 4°. **PKD**
The 16th book, p. 340-354, deals with sympathetic ink.
480. **Pottevin, H.** Sur la constitution du gallotannin. (Académie des sciences. Comptes rendus, Paris, tome 132, 1901, p. 704-706.) * **EO**
481. **Powell, Baden Harry Baden.** Handbook of the economic products of the Punjab, with a combined index and glossary of technical vernacular words. Roorkee: Thomason Civil Engineering College Press, 1868. 2 v. 8°. **V (Baden)**
See v. 1, p. 63 for recipe for lampblack and ink made therefrom.
482. **Preisner, O.** Aus der Praxis der Druckfarbenfabrikation. (Farben-Zeitung, Berlin, Jahrg. 20, 1915, p. 1087-1088, 1110-1111.) **VOA**
General article.
483. **Preparation** of ink. (American druggists' circular, New York, v. 1, 1857, p. 144.) †† **WTA**
Dr. Bly's recipe.
484. **Printing** on celluloid. (Inland printer, Chicago, v. 42, 1909, p. 577.) †* **IPA**
485. **Printing** with gold ink. (Inland printer, Chicago, v. 27, 1901, p. 214-215.) †* **IPA**
486. **Printing** with gold ink. (Inland printer, Chicago, v. 41, 1908, p. 898.) †* **IPA**
487. **Printing** ink for aluminum. (Inland printer, Chicago, v. 31, 1903, p. 733.) †* **IPA**
488. **Printing** ink for halftone work. (Scientific American supplement, New York, v. 86, 1918, p. 139.) **VA**
489. **Printing** ink and printing paper. Technical details relating to the materials of which books are made. (Scientific American supplement, New York, v. 81, 1916, p. 43.) **VA**
490. **Printing** ink reducer. (Inland printer, Chicago, v. 31, 1904, p. 720.) †* **IPA**
491. **Printing** ink reducers. (Inland printer, Chicago, v. 31, 1903, p. 568.) †* **IPA**
492. The **Printing** ink trade. (British printer, London, v. 27, 1914, p. 201.) †* **IPA**
Effect of the war.
493. **Printing** on tin. (Inland printer, Chicago, v. 41, 1908, p. 998.) †* **IPA**
494. **Processes** for repulping waste paper. Inventions for removing printer's ink and producing clean white pulp for new paper. illus. (Paper, New York, Dec. 19, 1917, v. 21, p. 14-16.) **VMPA**
495. **Procter, H. R., and H. G. BENNETT.** An investigation of the barium and calcium salts of gallic, protocathechuic and digallic acids. (Society of Chemical Industry. Journal, London, v. 25, 1906, p. 251-254.) **PKA**
496. **Procter, H. R., and F. A. BLOCKLEY.** The absorption of non-tanning substances by hide powder, and its influence on the estimation of tannin. (Society of Chemical Industry. Journal, London, v. 22, 1903, p. 482-484.) **VOA**

497. Prussia. — Königliche Staatsministerium. Grundsätze für amtliche Tintenprüfung. (Prussia. — Materialprüfungsamt. Mitteilungen, Berlin, Jahrg. 32, 1914, p. 1-4.) **VA**
498. Puscher, C. Unzerstörbare Tinte. (Polytechnisches Notizblatt, Mainz, Jahrg. 22, 1867, p. 190.) **VA**
See also *Polytechnisches Centralblatt*, Leipzig, Jahrg. 22, 1868, p. 1193, **VA**; American Pharmaceutical Association. *Proceedings*, Philadelphia, no. 18, 1870, p. 213-214, **WTA**.
499. Quantity of ink required on a given job. (Inland printer, Chicago, v. 41, 1908, p. 898.) **†* IPA**
500. Quick drying inks. (British printer, London, v. 32, 1919, p. 66.) **†* IPA**
501. Ransom, B. G. The manufacture of printing ink and the relation of ink properties to printing of all grades. (Pulp & paper magazine of Canada, Gardenvale, Que., v. 21, 1923, p. 129-143.) **VMPA**
Also printed in *Chemical age*, New York, v. 31, 1923, p. 63-67, **PKA**.
502. Raschig, F. Die Eisenchloridreaktion des Phenols und die Chlorkalkreaktion des Anilins. (Zeitschrift für angewandte Chemie, Berlin, Jahrg. 20, 1907, p. 2065-2071.) **PKA**
503. Raucourt, Antoine. A manual of lithography; clearly explaining the whole art, and the accidents that may happen in printing, with the different methods of avoiding them. Translated from the French by C. Hullmandel. London: Longman, Rees, Orme, Brown, Green, and Longman, 1832. xix, 117 p., 2 pl. 8°. **MDP**
Excellent descriptions of ink preparation.
504. Reclaim printed book paper by new process. (Popular mechanics, Chicago, v. 35, 1921, p. 676.) **VFA**
505. Red inks. (British printer, London, v. 32, 1919, p. 67.) **†* IPA**
506. Reducer for ink. (Inland printer, Chicago, v. 40, 1907, p. 228.) **†* IPA**
507. A Reducer for new ink. (Inland printer, Chicago, v. 42, 1909, p. 919.) **†* IPA**
508. Reducers for inks. (Inland printer, Chicago, v. 41, 1908, p. 411.) **†* IPA**
509. Reinige, Wilhelm. Schwarze Tinte. (Polytechnisches Centralblatt, Leipzig, N. F. Jahrg. 10, 1856, p. 702.) **VA**
510. Removal of blood and ink stains. (Color trade journal, New York, 1919, v. 4, p. 62-63.) **VOA**
511. The Removal of ink from waste paper. (Scientific American supplement, New York, v. 74, 1912, p. 407.) **VA**
512. Removing copying ink from rollers. (Inland printer, Chicago, v. 43, p. 568.) **†* IPA**
513. Removing Indian ink stains. (Illustrated carpenter & builder, London, v. 95, 1924, p. 18, 20.) **3-VEA**
Four recipes.
514. Removing ink. Process of taking it from printed matter and then pulping the stock. (Paper mill and wood pulp news, New York, v. 38, no. 10, 1915, p. 13.) **†3-VMPA**
Bell-Lape patent.
515. Renewing faded inks. (Inland printer, Chicago, v. 3, 1886, p. 720.) **†* IPA**
Method applied to parchments.
516. Rhodes, Henry J. The art of lithography; a complete practical manual of planographic printing. London: Scott, Greenwood & Son, 1914. 2 p.l., vii-xv, 327 p., 2 plans, 1 port. 8°. **MDP**
Excellent chapter on inks.
517. ——— London: Scott, Greenwood & Son, 1924. 328 p. 2. rev. ed. illus. 8°.
518. Ribaucourt. Dissertation sur l'encre ordinaire à écrire. (Annales de chimie, Paris, tome 15, 1792, p. 113-160.) **PAA**
Unusually complete exposition for the time when it was written.
519. Ridenour, W. E. Catechu. (Franklin Institute. Journal, Philadelphia, v. 56, 1903, p. 417-424.) **VA**
520. Robertson, A., and J. Hofmann. The chemical examination of hand-writing. (Society of Chemical Industry. Journal, London, v. 11, 1892, p. 847.) **VOA**
Method consists in drawing a goose feather, dipped in the tabulated reagents, over the letters, etc., composing the writing, and observing the alterations produced under a power of 100 diameters.
521. Roder, F. Blaue Tinte zum Zeichnen der Wäsche. (Polytechnisches Notizblatt, Mainz, Jahrg. 11, 1856, p. 112.) **VA**
522. Rosenheim, Otto. The methylation of gallotannic acid. (Chemical Society. Proceedings, London, 1905, v. 21, p. 157-158.) **PKA**
523. Rosenheim, Otto, and Philip Schidrowitz. The influences modifying the specific rotatory power of gallotannic acid. (Chemical Society. Journal, London, v. 73, 1898, p. 885-893.) **PKA**
For a note stating that van Tieghem discovered the optical activity of the acid see Chemical Society. *Proceedings*, London, v. 15, 1900, p. 67.
524. ——— The optical activity of gallotannic acid. (Chemical Society. Journal, London, v. 73, 1898, p. 878-885.) **PKA**
525. Rothe, J., and F. W. Hinrichsen. Über die Bestimmung des Eisens in der Tinte.

(Prussia. — Materialprüfungsamt. Mitteilungen, Berlin, Jahrg. 24, 1906, p. 285-286.)

VA

3. Untersuchungen über Eisengallustinten. Mitteilung

526. — Über die Bestimmung von Gerb- und Gallussäure. (Prussia. — Materialprüfungsamt. Mitteilungen, Berlin, Jahrg. 24, 1906, p. 280-284.)

VA

2. Untersuchungen über Eisengallustinten. Mitteilung

527. — Über die Haltbarkeit von Tinte im Glase. (Prussia. — Materialprüfungsamt. Mitteilungen, Berlin, Jahrg. 24, 1906, p. 278-279.)

VA

1. Untersuchungen über Eisengallustinten. Mitteilung

528. Rothwell, C. F. Seymour. The printing of textile fabrics, a practical manual on the printing of cotton, woollen, silk and half-silk fabrics. London: C. Griffin & Co., Ltd., 1897. xi, 312 p. illus. 8°.

VLG

529. Rowley, A. J. The manufacture of colours for printing inks. (British printer, London, v. 28, 1915-16, p. 217-218.)

†* IPA

530. Ruebencamp, Robert. Papier und Druckfarbe. (Farben-Zeitung, Berlin, Jahrg. 28, 1923, p. 1389-1390.)

VOA

Discusses effect of printing inks on color and durability of paper.

531. — Papier und Schwärze vom technischen Standpunkte. (In: H. Cohn, and R. Ruebencamp, Wie sollen Bücher und Zeitungen gedruckt werden. Braunschweig, 1903. 8°. p. 78-97.)

* IPR

Briefly describes manufacture of lampblack.

532. Ruhr. Zeichentinte für Wäsche. (Polytechnisches Notizblatt, Mainz, Jahrg. 22, 1867, p. 224.)

VA

See also *Polytechnisches Centralblatt*, Leipzig, N. F. Jahrg. 21, 1867, p. 1150, VA; *Dingler's polytechnisches Journal*, Augsburg, Bd. 185, 1867, p. 326, 3-VA.

533. Runge, Friedlieb Ferdinand. Grundriss der Chemie. München: Georg Franz, 1846-47. 2 v. 8°.

PKL

See Bd. 2, p. 205-209 for formulae; also for author's use of his inks with steel pen. See also *Dingler's polytechnisches Journal*, Augsburg, Bd. 109, 1848, p. 225-228, 3-VA.

534. Ruoss. Die quantitative Bestimmung der Gerbsäure durch Ferrisalze. (Zeitschrift für analytische Chemie, Wiesbaden, Jahrg. 41, 1902, p. 716-734.)

PKA

535. Rupert, Frank F. Examination of writing inks. illus. (Industrial and engineering chemistry, Easton, Pa., v. 15, 1923, p. 489-493.)

VOA

Abstract in Society of Chemical Industry. *Journal*, London, v. 42, 1923, p. 612A, VOA; *Analyst*, Cambridge, England, v. 48, 1923, p. 459-461, PKA.

536. — Manufacture and properties of writing inks. (Chemical age, New York, v. 30, 1922, p. 345-348.)

VOA

537. Ruxton, Philip. Printing inks; their composition, properties and manufacture, reprinted by permission from Circular no. 53 United States Bureau of Standards. Together with some helpful suggestions about the every-day use of printing inks. (Chicago;) Published by the Committee on Education, United Typothetae of America, 1918. 71 p. 8°. (Typographic technical series for apprentices. part 1, no. 12.)

* IPB (Typographic)

538. S., D. Indelible laundry inks. (Druggists circular, New York, v. 62, 1918, p. 169.)

† WTA

Recipes.

539. S., O. Some characteristics of offset printing inks. (British printer, London, v. 34, 1922, p. 253-254.)

†* IPA

540. S., R. E. Inks for rubber stamps and textiles. (Druggists circular, New York, v. 62, 1918, p. 214.)

† WTA

Sachsel, Eugen, joint author. See Hinrichsen, Friedrich Willy, and EUGEN SACHSEL.

541. Saeuberlich, Otto. Normenausschuss für das graphische Gewerbe. Bericht über die letztzeitlichen Arbeiten der Farben-Kommission. (Farben-Zeitung, Berlin, Jahrg. 27, 1922, p. 2624-2625.)

VOA

Methods of tests for printing ink pigments; also comparative standards for permanency.

Abstract in *Chemical abstracts*, Easton, Penn., v. 16, 1922, p. 3403-3404, VOA.

542. St. John, Eugene. Ink and paper troubles, causes and preventives. (Printing art, Cambridge, Mass., v. 26, 1916, p. 457-462.)

†* IPA

543. — Mixing and printing tints to be printed upon. (British printer, London, v. 26, 1916, p. 167.)

†* IPA

544. — On adapting printing ink to various papers. (Caxton magazine, London, v. 14, 1912, p. 43-44.)

* IAA

545. — Printing on celluloid and oily or greasy surfaces. (Inland printer, Chicago, v. 45, 1910, p. 543.)

†* IPA

546. — What every printer should know about ink. (Printing art, Cambridge, Mass., v. 25, 1915, p. 463-466; v. 26, 1915, p. 41-45.)

†* IPA

547. Salessky, W. Über Indikatoren der Acidimetrie und Alkalimetrie. illus. (Zeitschrift für Elektrochemie, Halle a. S., Jahrg. 10, 1904, p. 204-208.)

PKA

548. Salm, Eduard. Die Bestimmung des H-Gehaltes einer Lösung mit Hilfe von Indikatoren. (Zeitschrift für Elektrochemie, Halle a. S., Jahrg. 10, 1904, p. 341-346.)

PKA

549. **Sartori, A.** Eine angebliche Urkunden-fälschung. (Chemiker-Zeitung, Cöthen, Jahrg. 34, 1910, p. 1225.) **VOA**

"A handwriting expert erroneously declared a certain signature to be forged with lithographic ink and to have been inscribed without the use of an ordinary pen. The case and the manner of proving the error are described." — *Chemical abstracts*.

550. **Savage, William.** A dictionary of the art of printing. London: Longman, Brown, Green, and Longmans, 1841. 1 p.l., (i)vi-viii, 815(1) p. illus. 8°. ***IPR**

Principally references to books on printing inks.

551. — Practical hints on decorative printing, with illustrations engraved on wood, and printed in colours at the type press. London: the proprietor, 1822. 5 p.l., iii-vi, 118 p., 2 l., 1 facsim., 44 pl. f°. **†† MDO**

For printing inks, see p. 27-30.

552. **Schad, Heinrich.** Richtige, vollständige Anleitung zur Liniir-Kunst. Weimar: B. F. Voigt, 1851. 120 p. 3. ed. illus. 16°. ***IPR**

See chapter 7 for recipes for ruling inks in black and colors.

553. **Schaffgotsch, F. G. von.** Neue sympathetische Schrift. (Dingler's polytechnisches Journal, Augsburg, Jahrg. 1861, Bd. 160, p. 239.) **3 - VA**

See also *Polytechnisches Notizblatt*, Mainz, Jahrg. 16, 1861, p. 174, **VA**.

Scheuer, Otto. See **Vaubel, William**, and **OTTO SCHEUER**.

Schidrowitz, Philip. See **Rosenhain, Otto**, and **PHILIP SCHIDROWITZ**.

554. **Schiff, Hugo.** Optisches Verhalten der Gerbsäure. (Chemiker-Zeitung, Cöthen, Jahrg. 19, 1895, p. 1680.) **†† VOA**

555. — Eine Reaction auf freie Phenolhydroxyle. (Annalen der Chemie und Pharmacie, Leipzig, Bd. 159, 1871, p. 164-168.) **PKA**

556. — Ueber Natur und Constitution der Gerbsäure. (Deutsche chemische Gesellschaft. Berichte, Berlin, v. 4, 1871, p. 231-233.) **PKA**

557. — Untersuchungen über die Natur und Constitution der Gerbsäure. (Liebig's Annalen der Chemie, Leipzig, Bd. 170, 1873, p. 43-87; Bd. 175, 1875, p. 165-178.) **PKA**

558. — Weiteres zur Constitution der Gerbsäure. (Chemiker-Zeitung, Cöthen, Jahrg. 20, 1896, p. 865-866.) **†† VOA**

559. **Schluttig, Oswald.** Tinte. (In: Georg Lunge and Ernst Berl, Chemisch-technische Untersuchungsmethoden. 6. ed. Berlin, 1911. Bd. 4, p. 399-428.) **PMB**

560. — Ink. (In: Georg Lunge, editor. Technical methods of chemical analysis. New York, 1914. v. 3, part 1, p. 511-538.) **PMB**

— See also **Neumann, G. S.**, and **OSWALD SCHLUTTIG**.

561. **Schluttig, Oswald**, and **G. S. NEUMANN.** Die Eisengallustinten. Grundlagen zu ihrer Beurtheilung. Im Auftrage der Firma Aug. Leonhardi in Dresden, chemische Fabriken für Tinten... Dresden: v. Zahn & Jaensch, 1890. vi, 97 p. illus. tables. 8°. **VOPB**

Much quoted classic on the subject.

562. **Schmid, Heinrich.** Oxydation der Cellulose. (Jahres-Bericht über die Leistungen der chemischen Technologie für 1883, Leipzig, N. F. Jahrg. 14, 1884, p. 1076-1078.) **VOA**

Receipt for sympathetic ink.

563. **Schneemann, G.** Eisen - Gallusgerbsäure-Tinte. (Seifensieder-Zeitung, Augsburg, Jahrg. 40, 1913, p. 150.) **† 3 - VON**

Economical method of manufacture on a large scale, substituting dextrine for gum-arabic.

563a. **Schopper, Theodor.** Ein neues Verfahren zur Wiederverarbeitung von altem Druckpapier. (Wochenblatt für Papierfabrikation, Biberach, Bd. 47, Jahrg. 1916, p. 543-544.) ***VMPA**

564. **Schrauth, W.** Entfernen von Drucker-schwärze aus Altpapier. (Chemiker-Zeitung, Cöthen, Jahrg. 45, 1921, p. 1090-1091.) **VOA**

Abstract in *Chemical abstracts*, Easton, Penn., v. 16, 1922, p. 645, **PKA**.

565. **Schwarze Anilintinte.** (Färberei-Muster-Zeitung, Leipzig, Jahrg. 31, 1882, p. 117-118.) **VLA**

See also *Society of Chemical Industry. Journal*, London, v. 1, 1882, p. 224, **VOA**.

566. Die **Schwarzfarben** in der Anstrichtechnik. (Farben-Zeitung, Berlin, Jahrg. 25, 1920, p. 274-277, 318-319, 360-362, 406-407, 449-451.) **VOA**

General review of the use of black pigments in printing inks, paints, etc.

567. **Schweizer, Viktor.** The distillation of resins. Resinate lakes and pigments. Carbon pigments and pigments for typewriting machines, manifolders, etc. A description of the proper methods of distilling resin-oils, the manufacture of resinates, resin-varnishes, resin-pigments, and enamel paints; the preparation of all kinds of carbon pigments and printers' ink. London: Scott, Greenwood & Son, 1907. viii, 183 p. illus. 8°. **3 - VOP**

568. — The distillation of resins and the preparation of rosin products, resinates, lamp-black, printing inks, typewriting inks, etc., translated from the German of Victor Schweizer. 2d English edition, revised and re-written by H. B. Stocks. London: Scott, Greenwood and Son, 1917. viii, 212 p. illus. 8°. **VOP**

569. The **Scientific American** cyclopedia of formulas, partly based upon the twenty-eighth edition of *Scientific American cyclopedia of receipts, notes and queries*, edited by Albert A. Hopkins. New York: Scientific American Publishing Co., 1921. vii, 1077 p. illus. 8°. **Desk (Room 121)**

For numerous recipes see p. 908-922.

570. **Scoville**, Wilbur L. The pharmacist's ink. (*Scientific American supplement*, New York, v. 49, 1900, p. 20152.) **VA**

571. **Secrets** concernant les arts et métiers. Paris: Claude Jombert, 1716. 26 l., 610 p., 1 l. 12°. **VBA**

See chapter 10 for various recipes.

Library also has English edition under title: *Valuable secrets in arts, trades, &c. selected from the best authors and adapted to the situation of the United States*. New-York: Evert Duyckinck, 1816. iv, (1)6-317(1) p., 9 l. 12°.

572. The **Selection** of inks. (British printer, London, v. 25, 1913, p. 334.) **†* IPA**

573. **Senefelder**, Alois. A complete course of lithography: containing clear and explicit instructions in all the different branches and manners of that art: accompanied by illustrative specimens of drawings. To which is prefixed a history of lithography, from its origin to the present time... With a preface by Frederic von Schlichtegroll. Translated from the original German, by A. S. London: R. Ackermann, 1819. xxviii p., 2 l., 85 p., 1 l., (1)92-342 p., 1 l. illus. 4°. **† MDP**

See chapter 2: Ink, chalk, etching-ground and colours. Several recipes.

Library also has German edition, 1818; French edition, 1819; English edition, 1911.

574. **Senefelder**, Ed. Knecht. Encre indélébile. (*Le Technologiste*, Paris, tome 28, 1867, p. 198.) **VA**

See also *Polytechnisches Centralblatt*, N. F. Jahrg. 21, 1867, p. 611, **VA**.

575. **Seyda**, Anton. Eine empfindliche Gerbsäure-Reaction. (*Chemiker - Zeitung*, Cöthen, Jahrg. 22, 1898, p. 1085.) **†† VOA**

576. **Seymour**, Alfred. Modern printing inks. A practical handbook for printing ink manufacturers and printers. London: Scott, Greenwood & Son, 1910. vii, 83 p. illus. 8°. **VOPB**

577. — Practical lithography. London: Scott, Greenwood & Son, 1903. xi, 104 p. illus. 8°. **MDP**

See chapters 2 and 10.

578. **Shadwell**, Gilbert C. Use of gas in manufacture and utilization of glue, inks and similar substances. (*American gas engineering journal*, New York, v. 109, 1918, p. 17-30.) **VOA**

Covers briefly writing and printing inks.

579. **Sharples**, Stephen Paschall. Notes on photographic testing of inks. illus. (*American Philosophical Society. Proceedings*, v. 34, Jan., 1895, p. 471-477.) *** EA**

580. **Sherman**, George. Practical printing; explaining the ways and means of production in the modern printing plant. New York: Oswald Publishing Co., 1911. 4 p.l., 141 p. illus. 12°. *** IPR**

See chapter 11 on colored printing inks.

581. **Should** a pressman make his own ink specialties. (Inland printer, Chicago, v. 56, 1915, p. 105-106.) **†* IPA**

582. **Sigmund Ullman Company**. "Double tone" inks. (Inland printer, Chicago, v. 42, 1908, p. 395.) **†* IPA**

583. **Silbermann**, T., and H. Ozorovitz. Zur Kenntniss der Eisengallustinten. Über die Fähigkeit der Gallussäuren und verwandter Substanzen, komplexe Salze zu bilden. (*Chemisches Zentralblatt*, Berlin, Folge 5, Jahrg. 12, Theil 2, 1908, p. 1024-1025.) **PKA**

See also Society of Chemical Industry. *Journal*, London, v. 27, 1908, p. 974-975, **VOA**; *Chemical abstracts*, Easton, Penn., v. 2, 1908, p. 2685, **PKA**; Chemical Society. *Journal: Abstracts*, London, v. 96, part 1, p. 32-33, **PKA**.

Sinclair, W., joint author. See **Bishop**, A. W., and others.

584. **Sloane**, David H. Cooperation between organizations or associations. (Inland printer, Chicago, v. 67, 1921, p. 234.) **†* IPA**

Status of printer's ink industry discussed.

585. — Printing ink and printing ink makers, a strong plea for consideration. (British printer, London, v. 34, 1922, p. 205-206.) **†* IPA**

586. The **Smell** of printing ink. (Inland printer, Chicago, v. 57, 1916, p. 94-95.) **†* IPA**

587. **Smith**, J. H. The fading of printing inks. (British printer, London, v. 30, 1917, p. 15.) **†* IPA**

588. **Smith**, W. H., and J. B. Tuttle. Iodine number of linseed and petroleum oils. Washington: Gov. Prtg. Off., 1914. 17 p. 8°. (United States. — Bureau of Standards. Technologic paper 37.) **VBDA**

Testing of "burnt" oil used in manufacture of printing inks.

— See also **Tuttle**, John Betley, and **W. H. Smith**.

589. **Soft ink** on bond paper. (Inland printer, Chicago, v. 42, 1909, p. 919.) **†* IPA**

590. **Some ink formulas**. (Inland printer, Chicago, v. 9, 1892, p. 1063.) **†* IPA**

Recipes for inks for copying without pressure; marking; writing on glass; stencils; rubber stamps; indelible ink; writing on zinc and tin.

591. **Something** about varnish for printing inks. (British printer, London, v. 31, 1918-19, p. 209-210.) **†* IPA**

592. **Something about writing inks.** Notes on fluidity, durability, corrosion and copying. (Scientific American supplement, New York, v. 71, 1911, p. 320.) **VA**

593. **Southward, John.** Modern printing. A treatise on the principles and practice of typography and the auxiliary arts. London: Raithby, Lawrence & Co., Ltd., 1900. xiv, 861 p., 8 l., 1 diagr., 6 facsim., 5 pl., 2 ports., 1 table. 8°. ***IPR**

See Section 3, chapter 19: Properties of inks used in colour printing; Section 4, chapter 1, Printing ink.

594. — **Practical printing.** A handbook of the art of typography... The sixth edition by George Joyner. London: The "Printers' Register" Off. [1911.] 2 v. 8°. ***IPR**

See v. 2, p. 84-92, for general chapter on inks

595. **Specht, Leopold, and FRITZ LORENZ.** Neue Gerbstoff-Bestimmungen. (Chemiker-Zeitung, Cöthen, Jahrg. 25, 1901, p. 5-6.) **††VOA**

596. — **Neue Gerbstoffbestimmung.** illus. (Chemiker-Zeitung, Cöthen, Jahrg. 24, 1900, p. 170-171.) **††VOA**

597. **Special inks for special purposes.** (Inland printer, Chicago, v. 30, 1902, p. 223-224.) **†*IPA**

598. **Spence, J. Napier.** Notes on gallotannic and gallic acids. (Society of Chemical Industry. Journal, London, v. 11, 1890, p. 1114-1115.) **VOA**

Also in *Zeitschrift für analytische Chemie*, Wiesbaden, Jahrg. 31, 1892, p. 87-89, **PKA**.

599. **Spica, Matteo.** Considerazioni sul valore tecnico delle sostanze tanniche e nuovo metodo per il riconoscimento e il dosamento dell' acido gallico in esse. (La Gazzetta chimica italiana, Roma, v. 31, 1901, parte 2, p. 201-208.) **PKA**

600. **Spicher, Craig Reno.** The practice of presswork. Pittsburgh, 1919. 4 p.l., 240 p. illus. 8°. ***IPV**

Contains a chapter on the Manufacture of printing ink, by James A. Ullman. Recipes. Doubletone ink.

601. **Spraying of ink.** (Inland printer, Chicago, v. 39, 1907, p. 738.) **†*IPA**

Suggestion for avoiding.

602. **Stamping ink for varnished label.** (Inland printer, Chicago, v. 55, 1915, p. 203.) **†*IPA**

603. **Standard conditions for the printing ink industry adopted by the color standardization committee.** The adoption of the Ostwald color theory as a standard for measurement of color tones. Discussion of the ten conditions for fastness. (Color trade journal, New York, v. 11, 1922, p. 114-115.) **VOA**

604. **Steer, F.** Aus einem Schreiben des Apothekers Herrn F. Steer an Prof. Schröt-

ter. (Kaiserliche Akademie der Wissenschaften, Vienna. Sitzungsberichte, Math.-naturwissenschaftliche Classe, Wien, v. 22, 1856, p. 249-250.) ***EF**

Preparation of gallic acid from Turkish nuts.

See also *Jahresbericht über die Fortschritte der Chemie*, Giessen, 1856, p. 482, **PKA**.

605. **Strachan, James.** The recovery and re-manufacture of waste-paper; a practical treatise printed on paper made entirely from regenerated waste-paper. Aberdeen: The Albany Press, 1918. vi p., 3 l., 158 p. illus. 8°. **VMP**

Has historical account of de-inking, with descriptions of modern practice. For review see *Paper*, New York, v. 22, 1918, p. 668.

606. **The Structure of a simple colored ink.** chart. (Inland printer, Chicago, v. 56, 1916, p. 117.) **†*IPA**

607. **Strunk, H.** Marking inks for laundry use. (Chemical abstracts, Easton, Penn., v. 5, 1911, p. 2743.) **PKA**

Abstract only.

608. **Suitable inks for butter wrappers.** (Inland printer, Chicago, v. 37, 1906, p. 409.) **†*IPA**

Sullivan, Thomas V., joint author. See **Underwood, Norman,** and **THOMAS V. SULLIVAN.**

609. **Swan, Robert Thaxter.** Paper and ink. [Boston:] Library Bureau, 1895. 20 p. nar. 24°. **VMP p.v. 3, no. 4**

Repr.: Library journal, New York, v. 20, May, 1895, p. 163-167, ***HA**.

Discusses writing inks in general.

610. **Die Taetigkeit des Königlichen Materialprüfungsamtes der Technischen Hochschule Berlin 1906.** (Chemiker-Zeitung, Cöthen, Jahrg. 32, 1908, p. 269-270, 289.) **VOA**

Brief reference to ink investigations.

Abstract in *Chemical abstracts*, Easton, Penn., v. 2, 1908, p. 2198-2199, **PKA**.

611. **Teclu, Nic.** Über die Entzifferung von Schriftzeichen auf verkohlten und verbrannten Papieren. (Archiv für Kriminal-Anthropologie und Kriminalistik, Leipzig, Bd. 36, 1910, p. 115-121.) **SLA**

Abstract in *Chemical abstracts*, Easton, Penn., v. 5, 1911, p. 1724-1725, **PKA**; *Chemisches Zentralblatt*, Berlin, Folge 5, Jahrg. 14, Th. 2, 1910, p. 1337-1338, **PKA**.

612. **Thompson, Albert.** Méthode de dosage volumétrique du tannin et analyse des bois et extraits tanniques. (Académie des sciences. Comptes rendus, Paris, tome 135, 1902, p. 689-691.) ***EO**

613. **Thompson, Sir Edward Maunde.** Handbook of Greek and Latin palæography. New York: D. Appleton & Co., 1893. 2 p.l., xii, 343 p., 3 pl. 12°. (International scientific series. v. 70.) ***IC**

See p. 50-52.

614. Thomson, William. On the chemical composition of the ink on letters and documents as evidence in legal cases. (Manchester Literary and Philosophical Society. Proceedings, v. 19, 1879-80, p. 160-164.)

*EC

Also printed in *Chemical news*, London, v. 42, 1880, p. 32-33, PKA.

Abstract in Chemical Society. *Journal*, London, v. 50, Abstracts, 1881, p. 67-68, PKA.

615. Thorpe, Sir Thomas Edward. A dictionary of applied chemistry. rev. ed. v. 1-5. London and New York: Longmans, Green & Co., 1921-24. 8°.

VO

See v. 3, p. 628-634.

616. Three-colour inks and their selection. (British journal of photography, London, Jan. 5, 1912, Colour photography supplement, p. 4.)

MFA

617. Tieghem, Ph. van. Sur la fermentation gallique. (Académie des sciences. Comptes rendus, Paris, tome 65, 1867, p. 1091-1094.)

*EO

Abstract in *Zeitschrift für Chemie*, Leipzig, N. F. Bd. 4, 1868, p. 222, PKA.

618. Las Tintas de imprenta i su fabricación. (Sociedad de fomento fabril. Boletín, Santiago, año 40, 1923, p. 270-274, 317-321, 420-425, 502-508, 552-561.)

VA

619. Tinting ultramarine. (Inland printer, Chicago, v. 47, 1911, p. 104.)

†*IPA

620. To make copying ink print clear. (Inland printer, Chicago, v. 26, 1901, p. 938.)

†*IPA

621. To make waterproof india ink. (Inland printer, Chicago, v. 55, 1915, p. 489.)

†*IPA

622. To prevent ink drying in cans. (Inland printer, Chicago, v. 40, 1907, p. 82.)

†*IPA

623. To prevent ink drying too quickly. (Inland printer, Chicago, v. 23, 1899, p. 625.)

†*IPA

624. To remove ink from paper. (Inland printer, Chicago, v. 43, 1909, p. 102.)

†*IPA

625. To restore the quality of copying ink. (Inland printer, Chicago, v. 24, 1899, p. 97.)

†*IPA

626. Todeschini, Giustiniano. Über einige Reaktionen zur Unterscheidung von Gerbsäure und Gallussäure. (Chemisches Zentralblatt, Berlin, Folge 5, Jahrg. 3, Theil 1, 1899, p. 64-65.)

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627. Toovey. Ink for photolithography and phototypography. (Chemical Society. Journal: Abstracts, London, v. 42, 1882, p. 114.)

PKA

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The above are abstracts only.

628. Traill, Thomas Stewart. On the composition of a new writing ink, which, in resisting chemical deletion, promises to di-

minish the chance of the falsification of bills, deeds and other documents. (Royal Society of Edinburgh. Transactions, Edinburgh, v. 14, 1840, p. 419-429.)

*EC

Author was Professor of Medical Jurisprudence in the University of Edinburgh.

629. Treatment of inks for special work. (Inland printer, Chicago, v. 31, 1903, p. 231.)

†*IPA

Inks for 3-color halftones.

630. Trezise, F. J. The use of colors in embossing and diestamping. (In: Inland printer, A practical guide to embossing and die stamping. Chicago, 1908. 8°. p. 62-67.)

*IPR

631. Trotman, S. R., and J. E. HACKFORD. Strychnine tannate and its use in the analysis of tanning materials. (Society of Chemical Industry. Journal, London, v. 24, 1905, p. 1096-1100.)

VOA

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632. Trouble with copying ink. (Inland printer, Chicago, v. 38, 1906, p. 95.)

†*IPA

Remedy suggested.

633. Trouble with copying ink. (Inland printer, Chicago, v. 40, 1908, p. 593.)

†*IPA

634. Trouble with vermilion ink. (Inland printer, Chicago, v. 38, 1907, p. 724.)

†*IPA

Tscherne, R., joint author. See Herzog, J., and R. TSCHERNE.

635. Tschugaeff, L. Einige Bemerkungen über die Abhandlung von C. Liebermann: "Zur Theorie der Beizenfarbstoffe." (Deutsche chemische Gesellschaft. Berichte, Berlin, Jahrg. 41, 1908, p. 2245-2246.)

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636. — Einige Bemerkungen über die Ringbildung bei Komplexverbindungen. (Journal für praktische Chemie, Leipzig, N. F. Bd. 76, 1907, p. 88-93.)

PKA

637. — Über den Einfluss der Ringbindung auf den Beständigkeitsgrad von Komplexverbindungen. (Journal für praktische Chemie, Leipzig, Bd. 183 [N. F. Bd. 75], 1907, p. 153-168.)

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638. Tuttle, John Betley, and W. H. SMITH. Analysis of printing inks. Washington: Gov. Prtg. Off., 1914. 20 p. 8°. (United States. — Bureau of Standards. Technologic papers. no. 39.)

VBDA

Abstract in *Journal of industrial & engineering chemistry*, Easton, Penn., v. 6, 1914, p. 659-660, VOA.

— See also Smith, W. H., and J. B. TUTTLE.

639. Tyson, T. M. Effect of colour chemicals in printing processes. (British printer, London, v. 31, 1918-19, p. 229-230.)

†*IPA

640. — Pigments for printing inks. (Society of Chemical Industry. Journal, London, v. 37, 1918, p. 742A.) **VOA**

Abstract only. See also *Chemical abstracts*, Easton, Penn., v. 13, 1919, p. 1158, *PKA*.

641. Ueber die Zusammensetzung der englischen Copirtinte. (Dingler's polytechnisches Journal, Stuttgart, Bd. 76, Jahrg. 1840, p. 157.) **3-VA**

See also *Kunst und Gewerbe-Blatt*, München, Jahrg. 26, Bd. 18, 1840, p. 67, *VA*.

642. Ullmann, Gustav. Prüfungsmethode der in der Färberei verwendeten Gerbmaterien und der basischen Farbstoffe. (Chemiker-Zeitung, Cöthen, Jahrg. 23, 1899, p. 1014-1015.) **††VOA**

643. Ullman, James A. The manufacture of printing ink. (In: C. R. Spicher, The practice of presswork. Pittsburgh, 1919. 8°. p. 113-146.) ***IPV**

644. Unauslöschliche Tinte für Chlorbleiche zum Stempeln und Zeichnen zu bleichender Baumwollen- und Linnenstücke. (Polytechnisches Centralblatt, Leipzig, N. F. Jahrg. 29, 1875, p. 652.) **VA**

Abstract in *Chemical Society. Journal*, London, v. 30, 1876, p. 236, *PKA*; *Chemisches Centralblatt*, Leipzig, Folge 3, Jahrg. 6, 1875, p. 576, *PKA*.

645. Underwood, John. The history and chemistry of writing inks and the permanent character of ancient and modern documents. (Banker's magazine, New York, series 3, v. 12, 1878, p. 894-899, 962-966.) **THA**

646. — On the history and chemistry of writing, printing, and copying inks, and a new plan of taking manifold copies of written and printed documents, maps, charts, plans, and drawings. (Society of Arts. Journal, London, v. 5, 1857, p. 67-74.) **VA**

647. Underwood, John, and F. V. BURT. Copirschwärze für den Druck. (Polytechnisches Centralblatt, Leipzig, N. F. Jahrg. 12, 1858, p. 426.) **VA**

648. Underwood, Norman, and T. V. SULLIVAN. The chemistry and technology of printing inks. New York: D. Van Nostrand Company, 1915. 3 p.l., 139 p. illus. 8°. **VOBP**

Authors have charge of ink-making, United States Bureau of Engraving and Printing.

649. United States. — Bureau of Standards. The composition, properties, and testing of printing inks. Washington: Gov. Prtg. Off., 1915. 35 p. 8°. (United States. — Bureau of Standards. Circular no. 53.) **VBDA**

Has brief bibliography of inks, oils, pigments, and scientific journals.

See also *Scientific American supplement*, New York, v. 81, 1916, p. 43, *VA*.

650. — Inks — their composition, manufacture, and methods of testing. Washing-

ton: Gov. Prtg. Off., 1920. 24 p. 8°. (Circular no. 95.) **VBDA**

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Abstracted in *Chemical trade journal*, London, v. 68, 1921, p. 6-8, *VOA*; *Chemical age*, New York, v. 28, 1920, p. 290-291, *VOA*.

650a. — United States Government master specification for black waterproof drawing ink. Washington: Gov. Prtg. Off., 1925. 3 p. 8°. (Circular no. 196.) **VBDA**

651. Unsuitable ink. (Inland printer, Chicago, v. 43, 1909, p. 103.) **†*IPA**

Recommendations for litho-plate paper.

652. Urban, Wilhelm. Ueber photographische Differenzierung von Tinten. illus. (Jahrbuch für Photographie und Reproduktionstechnik, Halle a. S., Jahrg. 20, 1906, p. 650-652.) **MFA**

Abstract in *Chemical abstracts*, Easton, Penn., v. 1, 1907, p. 19, *PKA*.

653. Ure's dictionary of arts, manufactures, and mines, containing a clear exposition of their principles and practice by Robert Hunt, assisted by F. W. Rudler. v. 1-2, 4. London: Longmans, Green, & Co., 1875-79. 7. ed. 8°. **VB**

For recipes see v. 2, p. 914-916.

654. Use of bentonite in de-inking of newspapers gives promise of forest conservation. (Chemical & metallurgical engineering, New York, v. 27, 1922, p. 744.) **VOA**

655. Utz. Beitrag zur Frage über die Aufspaltung der Gallusgerbsäure. (Chemiker-Zeitung, Cöthen, Jahrg. 29, Semester 1, 1905, p. 31-32.) **††VOA**

656. Valenta, Eduard. Die bunten Druckfarben. Halle a. S.: Wilhelm Knapp, 1914. xii, 309 p. illus. 8°. (In his: Die Rohstoffe der graphischen Druckgewerbe. Bd. 3.) **VOBP**

657. — Fette, Harze, Firnisse, Russ, schwarze Druckfarben und verschiedene andere in den graphischen Druckgewerben verwendete Materialien (lithographische Tinten, Tusche, Kreiden, Walzenmassen, Feuchtwasser, Drucktinkturen, Lacke, Umdruck-, Deck-, Stempelfarben u. s. w.). Halle a. S.: Wilhelm Knapp, 1908. xv, 346 p. illus. 8°. (In his: Die Rohstoffe der graphischen Druckgewerbe. Bd. 2.) **VOBP**

658. — Über die Lichtechtheit und das Verhalten verschiedener Teerfarbstofflacke als Druckfarben. (Chemiker-Zeitung, Cöthen, Jahrg. 30, 1906, p. 901-904; Jahrg. 33, 1909, p. 1165-1167.) **VOA**

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659. Vanderstichel, A. A fast ink for use in paper mills. (Chemical abstracts, Easton, Penn., v. 17, 1923, p. 3419.) **PKA**

Abstract only. Ink will not fade even when exposed for several months to the atmosphere of the bleaching room.

660. Vandeveldel, A. J. J. Influence of acidity of paper on the fading of ink. (Society of Chemical Industry. Journal, London, v. 26, 1907, p. 548.) **VOA**
661. — Notes de chimie sur les papiers et les encres. (Revue des bibliothèques et archives de Belgique, Bruxelles, tome 4, 1906, p. 77-85.) *** HA**
Author is director of the city laboratory of Ghent. Gives results of durability tests on five types of ink.
662. Vaubel, Wilhelm, and OTTO SCHEUER. Zur Frage der Bestimmung der Gerbsäure in Gerbstoffen. illus. (Zeitschrift für angewandte Chemie, Berlin, Jahrg. 19, 1906, p. 2130-2133.) **PKA**
663. Vermilion ink affecting electros. (Inland printer, Chicago, v. 41, 1908, p. 410.) **†* IPA**
664. Vermilion not a stable pigment. (Inland printer, Chicago, v. 47, p. 729.) **†* IPA**
665. Vèzes, M., and G. DUPONT. Résins et térébenthines, les industries dérivées. Paris: J. B. Baillière et fils, 1924. 656 p. illus. 8°. **VOP**
See p. 568-597 for manufacture of blacks, printing inks, Chinese ink, lithographic and autographic inks and pencils.
666. Viedt, C. H. Bereitung einer schwarzen Anilintinte. (Polytechnisches Notizblatt, Mainz, Jahrg. 30, 1875, p. 290-291.) **VA**
See also *Polytechnisches Centralblatt*, Leipzig, N. F. Jahrg. 29, p. 1494-1495, *VA*.
667. — To make gold and silver inks. (Practical magazine, London, v. 5, 1875, p. 275-276.) **3 - VA**
668. — Ueber Anilintinten. (Dingler's polytechnisches Journal, Augsburg, Jahrg. 1874, Bd. 214, p. 167-169.) **3 - VA**
See also *Polytechnisches Centralblatt*, Leipzig, N. F. Jahrg. 29, 1875, p. 47-49, *VA*.
669. — Ueber die Herstellung guter Gold- und Silbertinten. (Dingler's polytechnisches Journal, Augsburg, Bd. 215, 1875, p. 567.) **3 - VA**
See also *Polytechnisches Notizblatt*, Mainz, Jahrg. 30, 1875, p. 186-187, *VA*.
670. — Ueber schwarze Schreibintinten. (Dingler's polytechnisches Journal, Augsburg, Bd. 216, 1875, p. 453-456, 532-535; Bd. 217, p. 73-77, 146-150.) **3 - VA**
Several formulas. Abstract in *Jahresbericht der chemischen Technologie*, Leipzig, Jahrg. 21, 1876, p. 998-1011, *VOA*; *Chemical Society. Journal*, London, 1876, v. 1, p. 821-823, *PKA*.
671. Vieli, G., and others. Die primären Tintensalze der Eisentinten. (Liebig's Annalen der Chemie, Leipzig, Bd. 435, 1924, p. 233-264.) **PKA**
672. Villon, A. M. Fabrication de l'encre pour la taille douce. (Société chimique de Paris. Bulletin, Paris, série 3, tome 9, 1893, p. 929-936.) **PKA**
Good abstract in *Society of Chemical Industry. Journal*, London, v. 13, 1894, p. 721, *VOA*.
673. Vogel, August. Ueber die blaue Tinte aus Berlinerblau. (Dingler's polytechnisches Journal, Augsburg, Bd. 169, 1863, p. 232.) **3 - VA**
See also *Polytechnisches Notizblatt*, Mainz, Jahrg. 18, 1863, p. 220-221, *VA*; *Polytechnisches Centralblatt*, Leipzig, N. F. Jahrg. 17, 1863, p. 1246, *VA*.
- Voigtlaender, F., joint author. See Dennstedt, M., and F. VOIGTLAENDER.
674. Vortheilhafte Bereitung einer dauerhaften schwarzen Tinte aus den Beeren des Sambucus Ebulus. (Dingler's polytechnisches Journal, Stuttgart, Bd. 151, 1859, p. 466.) **3 - VA**
See also *Polytechnisches Centralblatt*, Leipzig, N. F. Jahrg. 13, 1859, p. 751, *VA*.
675. W., J. C. Waterproof black ink. (American druggist, New York, v. 63, no. 3, 1915, p. 45.) **†† WTA**
676. Wackenroder, H. Beiträge zur Kenntniss der Catechusäure. (Annalen der Pharmacie, Heidelberg, Bd. 31, 1839, p. 72-79.) **PKA**
677. Wade, H. D., & Co. Wade's standard printing inks manufactured in every variety of black & colors. New York [1875]. 121 p. illus. obl. 12°. **VOPB**
Catalogue of shades and prices.
678. Wagner, Hans. Bronze-, Atlas- und Reflexfarben. (Farben-Zeitung, Berlin, Jahrg. 25, 1920, p. 18-19.) **VOA**
Abstract in *Chemical abstracts*, Easton, Penn., v. 14, 1920, p. 636, *PKA*.
A brief review of the use of metallic pigments, mixtures of these with other pigments, and of fluorescent dyes and lakes in the production of paints and inks that have metallic lusters.
679. — Die graphischen Farben. (Chemiker-Zeitung, Cöthen, Jahrg. 46, 1922, p. 421-424.) **VOA**
680. — Neue Lack- und Pigment-Farbstoffe. (Farben-Zeitung, Berlin, Jahrg. 28, 1923, p. 1386-1389.) **VOA**
Has a tabulation of characteristics and designations.
681. Walden, P. Ueber das optische Verhalten des Tannins. (Deutsche chemische Gesellschaft. Berichte, Berlin, Jahrg. 30, Bd. 3, 1897, p. 3151-3156.) **PKA**
682. — Ueber die vermeintliche Identität des Tannins mit der a-Digallussäure. (Deutsche chemische Gesellschaft. Berichte, Berlin, Jahrg. 31 (1898), Bd. 3, 1899, p. 3167-3174.) **PKA**
683. Walker, Percy Hargraves. Some technical methods of testing miscellaneous supplies, including paints and paint materials, inks, lubricating oils, soaps, etc. Washington: Gov. Prtg. Off., 1908. 48 p. 8°.

(United States. — Chemistry Bureau. Bulletin 109.) **VPH**

See p. 29-36 for writing, canceling, and rubber stamp inks.

684. Walther, Bruno. Die Fabrikation von Pausfarben und Durchschlagpapieren. (Chemiker-Zeitung, Cöthen, Bd. 45, 1921, p. 287-288.) **VOA**

See also *Scientific American monthly*, New York, v. 4, 1921, p. 307-308, *VA*.

685. — Die Fabrikation von Schreibmaschinenfarben und -Bändern. (Chemiker-Zeitung, Cöthen, Jahrg. 45, 1921, p. 169-171.) **VOA**

Translated in *Scientific American monthly*, New York, v. 3, 1921, p. 536-537, *VA*; *La Revue des produits chimiques*, Paris, année 24, p. 119-120, *PKA*.

686. — Das Ferrisulfatchlorid in der Tintenfabrikation. (Chemiker-Zeitung, Cöthen, Bd. 45, 1921, p. 842.) **VOA**

See also *Seifensieder-Zeitung*, Augsburg, Jahrg. 48, 1921, p. 745-746, 763-764, 780-781, 3-*VON*; *Chemical abstracts*, Easton, Penn., v. 16, 1922, p. 350, *PKA*.

687. — Die Tintenfabrikation. (Chemiker-Zeitung, Cöthen, Jahrg. 45, 1921, p. 430-432.) **†† VOA**

Formulas for various kinds of inks.

688. Wagner, Hermann. Entfernung von Druck- und Schriftzeichen aus bedrucktem Papier. (Chemiker-Zeitung, Cöthen, Jahrg. 35, 1914, p. 927-928.) **VOA**

Abstract in *Society of Chemical Industry. Journal*, London, v. 33, 1914, p. 858, *VOA*.

689. Wanted gloss effect on black ink. (Inland printer, Chicago, v. 33, 1904, p. 701.) **†* IPA**

690. Wants a black ink that can be removed from paper with a steel pointer. (Inland printer, Chicago, v. 24, 1899, p. 253.) **†* IPA**

Editor has no knowledge of such an ink.

691. Wants to prevent purple fading. (Inland printer, Chicago, v. 30, 1903, p. 761.) **†* IPA**

692. Wants to remove ink from aluminum. (Inland printer, Chicago, v. 24, 1900, p. 577.) **†* IPA**

693. Warhurst, B. W. A colour dictionary, giving about two hundred names of colours used in printing, etc. Specially prepared for stamp collectors. London: S. Gibbons, 1899. 1 p.l., 48 p., 1 col'd pl. 8°. **TVG**

694. Wattenbach, Wilhelm. Das Schriftwesen im Mittelalter. Leipzig: S. Hirzel, 1875. viii, 569 p. 2. ed. 8°. *** IC**

See p. 193-203. Etymology discussed and several recipes given with footnote references.

695. Wegler, Th. Rothe Tinte zum Zeichnen der Wäsche. (Bayerisches Industrie- und Gewerbe-Blatt, München, Jahrg. 6, 1874, p. 209.) **VA**

See also *Polytechnisches Centralblatt*, Leipzig, N. F. Jahrg. 28, 1874, p. 1370, *VA*; *Polytechnisches Notizblatt*, Mainz, Jahrg. 29, 1874, p. 303, *VA*.

696. Wehrs, Georg Friedrich. Vom Papier, den vor der Erfindung desselben üblich gewesenen Schreibmassen, und sonstigen Schreibmaterialien. Halle: J. J. Gebauer, 1789. 8 p.l., 728 p., 14 l. 8°. **VMP**

See chapter 11 for history and recipes.

697. Wells, Sidney D. The de-inking of old newspapers. (Canadian pulp & paper magazine, Gardenville, P. Q., v. 20, 1922, p. 599-602.) **VMPA**

698. — Making newspapers from old paper stock. De-inking processes for old newspapers and the use of bentonite as peptizing agent. (Paper, New York, v. 30, no. 14, 1922, p. 7-10.) **VMPA**

699. Wende, Hermann. Ueber Trimethyl-anthragallol. (Deutsche chemische Gesellschaft. Berichte, Berlin, Jahrg. 20, 1887, p. 867-870.) **PKA**

Wense, W., joint author. See Liebermann, C., and W. WENSE.

700. Werner, A. Über die Schwärze von Tintenflecken auf Papier. (Zeitschrift für Elektrochemie, Halle a. S., Bd. 22, 1916, p. 23-27.) **PKA**

Abstract in *Society of Chemical Industry. Journal*, London, v. 35, 1916, p. 428-429, *VOA*.

701. — Zur Theorie der Beizenfarbstoffe. (Deutsche chemische Gesellschaft. Berichte, Berlin, Jahrg. 41, 1908, p. 1062-1071, 2383-2386.) **PKA**

702. Westcott, Henry P. Where the printer gets his ink. America's carbon-black industry and the methods it employs. illus. (*Scientific American*, New York, v. 124, 1921, p. 88, 99-100.) **VA**

703. Why printing inks must be dearer. (British printer, London, v. 32, 1920, p. 196.) **†* IPA**

704. Wilkinson, W. J. Standardizing colour process inks. (British printer, London, v. 32, 1919, p. 107-108; v. 34, 1921, p. 27-28.) **†* IPA**

705. Wilkinson, W. T. Photo-mechanical processes. A practical guide... London: Hampton & Co. [1892?] vii(i), 7-216 p. illus. 3. ed. 12°. **MDS**

See index.

706. Winterniss, J. Ueber Anfertigung der sogenannten Alizarin-Tinte. (Kunst und Gewerbe-Blatt, München, Jahrg. 42, Bd. 34, p. 370.) **VA**

707. — Ueber die sogenannte Alizarin-Tinte. (Dingler's polytechnisches Journal, Stuttgart and Augsburg, Bd. 139, 1856, p. 447-450.) **3-VA**

See also *Polytechnisches Centralblatt*, Leipzig, N. F. Jahrg. 10, 1856, p. 767, *VA*.

708. **Wisbar**, G. Writing inks, their estimation. (Society of Chemical Industry. Journal, London, v. 15, 1896, p. 55.) **VOA**
709. **Wislicenus**, H. Über Gerbmateriale-analyse mit "gewachsener" Tonerde. (Zeitschrift für analytische Chemie, Wiesbaden, Jahrg. 44, 1905, p. 96-106.) **PKA**
710. — Versuche zur Gerbstoffbestimmung ohne Hautpulver. (Zeitschrift für angewandte Chemie, Berlin, Jahrg. 1904, p. 801-810.) **PKA**
711. **Wislicenus**, Wilhelm. Ueber einige Aldehydsäuresster. (Deutsche chemische Gesellschaft. Berichte, Berlin, Bd. 20, 1887, p. 2930-2934.) **PKA**
712. — Ueber die Isomerie der Formylphenylessigester. (Deutsche chemische Gesellschaft. Berichte, Berlin, Bd. 28, 1895, p. 767-774.) **PKA**
713. — Ueber die Isomerie der Formylphenylessigester. (Liebig's Annalen der Chemie, Leipzig, Bd. 291, 1896, p. 147-216.) **PKA**
Not the same as the previous entry.
714. — Ueber Tautomerie. (Sammlung chemischer und chemisch-technischer Vorträge, Stuttgart, Bd. 2, 1898, p. 187-256.) **PKA**
See p. 242 for iron salts.
715. **Wittstein**, G. C. On the preparation of gallic acid from Chinese gall-nuts. (Pharmaceutical journal and transactions, London, v. 12, 1852-53, p. 444-445.) **WTA**
- Wolff**, F., joint author. See **Klaproth**, M. H., and F. **WOLFF**.
- Wolff**, Hans, joint author. See **Zellner**, Heinrich, and **HANS WOLFF**.
716. **Wood**, George W. Scientific handwriting testimony. Higher art of handwriting and typewriting investigation explained and illustrated. Court rulings and noted cases cited. Pittsburgh: Cramer Printing and Publishing Company, Crafton Branch, cop. 1922. 3 p.l., 9-76 p., 4 l. illus. 8°. ***ICL**
717. The **Word** "ink." (Inland printer, Chicago, v. 4, 1887, p. 468.) **†*IPA**
Equivalents in ancient and Oriental languages.
718. A **Word** on ink. (Chambers' Edinburgh journal, Edinburgh, v. 12, 1850, p. 120-122.) ***DA**
719. The **Wratten** tricolour ink-tester. (British journal of photography, London, v. 56, Jan. 22, 1909, p. 69.) **MFA**
720. **Writing** ink in cakes. (American druggists' circular, New York, v. 1, 1857, p. 67.) **††WTA**
Leonhardi's formula.
721. **Wyman**, Walter F. The American writing ink industry. illus. (Export American industries, New York, v. 19, 1912, no. 2, p. 51-53.) **†TLA**
Factory pictures.
722. **Yano**, M. Microscopical examination of printed paper. (Society of Chemical Industry. Journal, London. v. 36, 1917, p. 868.) **VOA**
Abstract only. Also in *Paper makers' monthly journal*, London, v. 55, 1917, p. 347, **†VMPA**.
Study of the penetration of paper by ink.
723. **Young**, Sydney. A distinctive test for gallic acid. (Chemical news, London, v. 48, 1883, p. 31-32.) **PKA**
724. **Zander**, C. G. The influence of colored stock on colored ink. table. (Inland printer, Chicago, v. 43, 1909, p. 382-383.) **†*IPA**
725. **Zaunick**, Rudolph. Tintenrezepte des 15. und 16. Jahrhunderts. (Geschichtsblätter für Technik, Industrie und Gewerbe, Berlin, Bd. 4, 1917, p. 74-75.) **V**
Recipes from *Kochbuch von Maister Hannsen des von Wirtenberg Koch*, 1460.
726. **Zechlin**. Unauslöschliche Tinte zum Zeichnen der Wäsche. (Polytechnisches Centralblatt, Leipzig, N. F. Jahrg. 16, 1862, p. 959.) **VA**
727. **Zellner**, Heinrich, and **HANS WOLFF**. Über die Ursachen der Hauterkrankungen im Buchdruckgewerbe. (Zeitschrift für Hygiene und Infektionskrankheiten, Leipzig, Bd. 75, 1913, p. 69-80.) **WAA**
Tabular data of materials used.
728. **Zwick**, Karl G. Die Verwendung des Zeisschen Eintauch-Refraktometers für die Gerbstoffanalyse. illus. (Chemiker-Zeitung, Cöthen, Jahrg. 32, 1908, p. 405-406.) **††VOA**

PATENTS

This list is compiled from official documents containing either specifications or abstracts, no attempt having been made to index publications which list titles only. Patents relating to printing inks are indicated by a star (*).

ABBREVIATIONS

Aus.: Auszüge aus den Patentschriften.
 Aus. off. jour.: Australian official journal.
 Ber.: Berichte der Deutschen chemischen Gesellschaft.
 Bull. Soc. Chim.: Bulletin de la Société chimique.
 C. A.: Chemical abstracts (American).
 Cent.: Chemisches Centralblatt.
 Chem. tech. Übers.: Chemisch-technische Übersicht.
 Chem. Ztg.: Chemiker-Zeitung.
 Chim. et ind.: Chimie et industrie.
 Des.: Description des machines et procédés pour lesquels des brevets d'invention ont été pris.
 Gaz.: New Zealand gazette (supplement).
 J. A. C. S.: Journal of the American Chemical Society.
 J. S. C. I.: Journal of the Society of Chemical Industry.
 Jahr. Chem.: Jahresbericht der Chemie.
 Kunst.: Kunststoffe.
 Lange: Lange, Otto, Chemisch-technische Vorschriften, ed. 3, 1923-24.
 Lond. jour.: London journal (Newton's).
 Mec. mag.: Mechanics' magazine.
 Mon. sc. B.: Moniteur scientifique (Choix de brevets, supplément).
 Pat. O. R.: Canadian Patent Office record.
 Poly. Cent.: Polytechnisches Centralblatt.
 Ptb.: Oesterreichischer Patent Blatt.
 Rec.: Recueil des brevets d'invention.
 Rep.: Chemisch-technisches Repertorium (Supplement to Chemiker-Zeitung). Formerly Chemisches Repertorium.
 Repertory: Repertory of arts.
 Rev. chim. ind.: Revue de chimie industrielle.
 Tech. chem. J.: Technisch-chemisches Jahrbuch.
 Wag. Jahr.: [Wagner's] Jahresbericht über die Leistungen der chemischen Technologie.
 Zeit. ang. C.: Zeitschrift für angewandte Chemie.

UNITED STATES

The Reports of the Commissioner of Patents, 1845-1871, contain abstracts. Library has specifications, 1871-date.

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| <p>729. Cist, J. 1808.
Mineral black for printing.</p> <p>*730. Chase, B. 1810.
Printers' ink.</p> <p>731. Rennie, J. 1834.
Coloring matter.</p> <p>732. Myers, J. D. 1835.
Writing ink.</p> <p>733. Spear, T. J. 2176. 1841.
Indelible ink.</p> | <p>734. Ferris, P. 2870. 1842.
Black ink.</p> <p>*735. Clark, E. 4102. 1845.
Printers' ink. Colophony, rosins or bitumens, and lampblack.</p> <p>*736. Mathews, M. M. 7686. 1850.
Use of rosin oil in printers' ink.</p> <p>737. Harrison, A. 8755. 1852.
Ink-making vessel.</p> |
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Patents—United States, continued.

- *738. **Turner, S. H.** 10006. 1853.
Printers' ink. Colophonic tar, lampblack, indigo blue, indian red, rosin soap.
- *739. **Thompson, C. A.** 12733. 1855.
Printers' ink. Litharge, acetate of lead, linseed oil, gum copal.
- *740. **Matthews, G.** 17688. 1857.
Printers' ink. Calcined green oxide of chromium and linseed oil.
- *741. **Smillie, G.** 37984. 1863.
Green ink for steel plate printing. Asbestos, chromium, and oil.
- *742. **Underwood, J., and F. V. BURT.** 38008. 1863.
Printers' and copying ink. Nut-galls, iron sulphate, gum senegal, treacle, soap, lampblack, prussian blue, water.
- *743. **Eaton, A. K.** 38298. 1863.
Safety printers' ink. Chromite of baryta.
- *744. **Hunt, T. S.** 40839. 1863.
Safety printers' ink. Based on per-oxide of tin and a small proportion of oxide of chromium or other metallic oxides.
- *745. **Rogers, R. H.** 42405. 1864.
Stamping ink. Coloring matter in a menstrum of the fibre or dust of leather to produce a "pulp" ink.
- *746. **Lummrus, T. J.** 46684. 1865.
Red writing ink. Rosin, alcohol, water, gum acacia, and gum myrrh.
- *747. **Holt, H.** 47494. 1865.
Stamping ink. Anilin red and glycerin.
- *748. **Hulot, A. A.** 47909. 1865.
Printers' ink. Glue, honey, water, and glycerin instead of varnish or oil commonly used.
- *749. **Duryee, G.** 48385. 1865.
Printers' ink. Petroleum distillation residue, sulphuric acid. Produces "petrolene wax" to be substituted for linseed or other oils.
- *750. **Whitefield, E.** 48471. 1865.
Printers' ink. Nitric acid, sulphuric acid, logwood, chinese blue, iron filings.
- *751. **Macdonough, J.** 52869. 1866.
Ink for postage stamps. Gelatin, glycerin, and color.
- *752. **Sangster, J. A. W., and H. H. SANGSTER.** 53379. 1866.
Printers' ink. Oil, rosin, soap, and pulverized coal.
- *753. **Lanza, John.** 55679. 1866.
Writing ink to show metallic lustre. Gum arabic, gum ammoniac, water, garlic juice, and bronze powder.
- *754. **Bowman, A. D.** 59549. 1866.
Writing ink. Logwood, bichromate of potash, prussiate of potash, water.
- *755. **Loewenberg, E.** 63733. 1867.
Printers' colored ink from saccharine substance in combination with glycerin or oily matter, or both, and color.
- *756. **Loewenberg, H.** 63734. 1867.
Marking ink. Iodine or bromine added to ordinary writing ink.
- *757. **Petitdidier, F.** 64562. 1867.
Applying designs in relief and brilliancy to woven fabrics.
- *758. **Owens, B.** 65002. 1867.
Writing ink. Hot water, paris blue, ox-gall, alcohol.
- *759. **Weissberger, M.** 65973. 1867.
Printers' ink. Mineral resin, hydrocarbon oil, and lampblack.
- *760. **Wurtz, H.** 67697. 1867.
Printers' ink from grahamite.
- *761. **Shaw, J.** 69846. 1867.
Writing ink. Water, logwood, sodium bicarbonate, potassium cyanide, prussiate of potash.
- *762. **Francis, L.** 72621. 1867.
Ruling ink. Anilin, acetic acid, and galls.
- *763. **Wurtz, E.** 74188. 1868.
Printers' ink from grahamite.
- *764. **Seidel, C.** 76107. 1868.
Coloring matter from cashew nut.
- *765. **Buzby, A. G.** 78258. 1868.
Copying ink. Water, galls, iron sulphate, indigo, sugar, gum arabic, or other ingredients in combination with glycerin or gelatine, or both, and bichloride of mercury.
- *766. **Wulsten, C.** 79045. 1868.
Printers' colored ink. Silicate of alumina, clay, prepared with zinc sulphate and with or without dilute sulphuric acid, and dyeing materials.
- *767. **McNeil, D. C.** 79374. 1868.
Sympathetic ink. Sulphuric acid, water, and sugar.
- *768. **Bloede, V. G.** 87088. 1869.
Stain removing compound.
- *769. **Dougherty, D. A.** 87094. 1869.
Black writing ink. Anilin blue, with iron salts, and galls or tannin.
- *770. **McKellar, D.** 87350. 1869.
Printers' ink for leather. Varnish, paint, and bronze powders.
- *771. **Zengeler, J.** 90417. 1869.
Ink powder from anilin colors.
- *772. **Kréci, C.** 94220. 1869.
Printers' ink. Coal tar with wood charcoal and nitric acid.
- *773. **Farrar, A.** 100877. 1870.
Printers' ink, using a "new oily product, or such product with pigments and a saccharin syrup."
- *774. **Simonds, J. P.** 101170. 1870.
Stamping ink. Combines orchil with a printing ink.
- *775. **Francis, L.** 102243. 1870.
Printers' ink. Glycerin, saccharin, and gums.
- *776. **Caldwell, J. M., and G. W. CALDWELL.** 102915. 1870.
Indelible ink. Carbon, metallic salt, vegetable color, and anilin.
- *777. **Casilear, G. W.** 104554. 1870.
Printers' ink. Combination of "patent drier" with glycerin and boiled molasses.
- *778. **Loewenberg, H.** 104862. 1870.
Printers' ink. Adds prussiate of potash to ordinary printers' ink.
- *779. **Turly, M., and B. F. THOMAS.** 105014. 1870.
Printers' ink. Volatilizes rosin or pitch.
- *780. **Panknin, C. F.** 106198. 1870.
Non-corrosive ink.

Patents — United States, continued.

781. Hebel, C. 106582. 1870.

Indelible writing ink.

782. Beck, F. 107997. 1870.

Compound for coloring paper.

*783. McIlvaine, C. 108615. 1870.

Printers' copying ink, using gums.

784. Loftus, R. G. 109327. 1870.

Writing ink.

*785. Kircher, J. 110048. 1870.

Printers' ink. Peroxide and protoxide of iron, and varnish.

*786. Farrar, A. 113755. 1871.

Printers' ink.

*787. Turly, M. 113947. 1871.

Printers' ink.

788. Walsh, E. F., and S. DURYEA.

115915. 1871.

Writing ink. Shellac, borax, water.

*789. McIlvaine, C. 117313. 1871.

Printers' ink. Black color, glycerin, soluble gums, acid, and saccharin matter.

790. McIlvaine, C. 117314. 1871.

Copying ink for ruling and printing. Soluble color in glycerin, alcohol, and water, together with soluble gums, an acid, and saccharin matter.

*791. Kircher, J. 119154. 1871.

Printers' ink. Iron dissolved in an acid and mixed with tannic or gallic acid, or both. Precipitate is treated with alkali and ground in varnish.

792. Blaney, J. V. Z. 121321. 1871.

Restoring writing or printing on charred paper.

793. Carter, J. W. 124544. 1872.

Process of driving air into writing ink.

794. Popper, I. 125077. 1872.

Writing ink. Oil, resin, soap, carbon, and kerosene.

*795. White, J. C. 126601. 1872.

Printers' ink. Oil of gaster.

*796. Guichard, A. D. G. 128302. 1872.

Printers' ink for textiles.

*797. Horton, H. G. 131444. 1872.

Printers' ink. Glue, glycerin, plumbago, linseed oil, lampblack, copper sulphate, gum copal, bone dust.

798. Little, G. 131886. 1872.

Telegraphic ink. Powdered anilin heated with glycerin.

799. Popper, J. 132102. 1872.

Writing ink. Lampblack, glycerin, gum arabic, and water.

*800. Kircher, J. 132840. 1872.

Printers' ink. Coal tar, caustic soda, coal oil, black oxide of manganese.

801. Briggs, E. W. 133197. 1872.

Indelible ink. Silver, soda, gum, honey, color, ammonia, and water.

802. Slade, N. P. 133954. 1872.

Writing ink. Water, borax, logwood, bichromate of potash, glycerin, and alcohol.

803. Martin, J. 134434. 1872.

Mixing and grinding apparatus.

804. Jud, J. B. F. 140782. 1873.

Stamping ink. Red anilin, citric acid, mucilage, glycerin, and acetic acid.

805. Jud, J. B. F. 147384. 1874.

Paste inks. Recipes for black, red, blue, violet, and green. Also a copying ink.

*806. Loase, J. F. 150475. 1874.

For electrotyping, stereotyping, etc. Sulphuric acid, sugar, and water, producing an ink capable of presenting characters in relief.

807. Teysonniere, A. 151633. 1874.

Copying ink. Oxalate, or oxalic acid, color, and sugar.

808. Reams, I. M. 156379. 1874.

Writing ink. Logwood, bichromate of potash, alcohol, and water.

809. Dexter, A. J. 167878. 1875.

Copying ink. Nut galls, iron sulphate, gum arabic, sugar, water, glycerin, nitrate of silver, and cloves.

*810. Briedbach, C. J., and C. BRIEDBACH.

168134. 1875.

Carmine printers' ink. Carmine, ammonia, and varnish.

811. Bonney, W. A. 170513. 1875.

Ink powder. Logwood, bichromate of potash, prussiate of potash, gum arabic and copperas.

812. Ehrhardt, L. H. G. 172721. 1876.

Extracting printers' ink from rags. Treats successively with linseed oil, turpentine, alkaline bath, and acid.

813. Marshall, D. M. 174917. 1876.

Indelible ink for canceling postage stamps. Printers' ink and carbolic acid.

814. Robertson, J. T. 181597. 1876.

Renovating waste ink. Immerses in water, runs through centrifugal machine, and grinds.

815. Van der Linden, W. F., and H. C. KING.

188212. 1877.

Canceling ink. Cotton-seed oil, oil varnish, ivory black, rosin black, and colors.

816. Taylor, J. M. 189813. 1877.

Non-corrosive writing ink. Gum and silicate.

*817. Collins, C. 192739. 1877.

Printers' ink. Crude turpentine, linseed oil, and rosin.

818. Tilman, N. T. 194015. 1877.

Writing ink. Tincture of chloride of iron, acetic acid, chloride of sodium, logwood, and bichromate of potash.

819. Hover, J. E. 194966. 1877.

Canceling ink. Lampblack, hydrochloric acid, and linseed oil.

820. Egerton, C. C. 198090. 1877.

Canceling ink. Insoluble colors and abrading materials.

821. Wells, G. A. 199883. 1878.

Writing ink. Gelatinization prevented by neutralizing acids with ammonia. Sodii boras, shellac, lampblack, camphor, alcohol, ammonia, and water.

822. Richmond, H., and W. S. RICHMOND.

203372. 1878.

Canceling and writing ink. Eosin, blue and black anilin, cupric chloride, sodium chlorate, ammonium chloride, glycerin, and oil.

823. Mendel, E. 216625. 1879.

Safety ink. Glycerin, starch, zinc white, grape sugar or glucose, and color.

Patents—United States, continued.

824. Collins, G. J. 216832. 1879.
Capsuled ink powders, using gelatine.
- *825. Kircher, J. 223363. 1880.
Safety printing ink. Rosin, turpentine, linseed oil, olive oil, and color.
- *826. Connelly, M. 235670. 1880.
Printers' ink. Based on crude petroleum and lime boiled at 350° F.
- *827. Hendrichs, J. 239954. 1881.
Lithographic inks. Drop white, copperas, bichromate of potash, sulphur, black union dye.
828. Morse, A. N. 239974. 1881.
Indelible ink. Water, caustic potash, seed-lac, permanganate of potash, and lampblack.
829. Mallory, J. E. 241682. 1881.
Writing ink. Extract of galls or gallic acid, tannic acid, and salts of iron subjected to oxygen.
830. Froehling, H. 243441. 1881.
Indelible ink. Lampblack, caustic alkali, and asphaltum.
- *831. Bastand, C. T. 247597. 1881.
Printers' ink. Passes bisulphide of carbon through engineers' cotton waste and distills the product.
832. Stoddart, A. F. 255352. 1882.
Writing ink from spent tanning liquor.
833. Reid, P. 256596. 1882.
J.S.C.I., 1882, v. 1, p. 187.
Ink for dyeing purposes. Pyroxline, color, camphor, and menstrum.
- *834. Reid, P. 256597. 1882.
J.S.C.I., 1882, v. 1, p. 187.
Printing ink for textiles. Based on pyroxline.
835. Magne, J. J. 260583. 1882.
Writing ink. Albumen, ferrocyanide of potash, color, and water.
836. Goold, O. A. 263508. 1882.
Writing ink. Hemlock bark, prussiate of potash, and nitrate of iron.
- *837. Reissig, W. 265867. 1882.
Printers' ink. Dioxide of manganese and linseed oil varnish.
838. Kendall, E. D. 273240. 1883.
Writing ink. Ammonia solution, resin, and color.
839. Reissig, W. 277342. 1883.
Stamping ink. Linseed oil size or varnish, lampblack, and an iron chloride or protochloride.
840. Franseky, J. 299372. 1884.
Ink to give metallic surface to paper.
841. Appleyard, T. W., Jr., and others. 306456. 1884.
Soluble black from waste tan liquor.
842. Clawson, L. P. 308138. 1884.
Ink and paint mill.
843. Kennerly, G., and B. CREIGHTON. 312474. 1885.
Transfer ink. Resin, turpentine, and color.
844. Schmucker, W. Y. 313246. 1885.
Ink grinder.
845. Ogilvy, D. J. 330613. 1885.
Manufacture of rosin compounds.
846. Mueller-Jacobs, A. 342207. 1886.
Coloring compound. Resinate, color, and alcohol.
847. Buchten, A. 342279. 1886.
Ink remover. Water, citric acid, borax, and chloride of lime.
848. Lange, J. H. 343378. 1886.
For producing color on wall-paper.
- *849. Ramsdell, I. 345448. 1886.
Lithographic ink. Bichromate of potash, gelatine, prussiate of potash, water, tannate of iron, and color.
850. Underwood, J. T., and F. W. UNDERWOOD. 348072-73. 1886.
Carbon paper ink.
851. Whitefield, L. 351949. 1886.
Stencil ink. Benzine, bronze powder, kerosene, and color.
- *852. Stanchfield, G. M. 369969. 1887.
Printers' ink reducer. Kerosene oil, sulphuric ether, essential oil of sassafras, and oil of cloves.
853. Dimitry, C. P. 370383. 1887.
Indelible ink. Water, gelatine, bichromate of potash, diamond slate dye, creosote, and india ink.
- *854. Bailey, L. 375720. 1888.
Printers' ink. Palm oil and anilin color.
855. Lefferts, M. C., and J. H. STEVENS. 380654. 1888.
Ink for celluloid.
856. Johnston, T. R. 383576. 1888.
Ink mill.
857. Soltmann, E. G. 397146. 1889.
Slab for india-ink.
858. Stevens, W. X. 408143. 1889.
Ink-grinding slab.
- *859. Holt, O. G. 412183-84. 1889.
Printers' and lithographic ink. Maltha and pigment.
- *860. McCloskey, J., and C. F. FARWELL. 422430. 1890.
Printers' ink for celluloid. Pigment, albumen, glycerin, and a gum resin.
- *861. Holt, O. G. 424556. 1890.
Printers' and lithographic ink. Residue of petroleum.
- *862. Holt, O. G. 424557. 1890.
Printers' and lithographic ink. Petroleum residue, gums, pigment.
863. Schiffmann, J. 428146. 1890.
Indelible violet anilin ink. Slow oxidation of mixture of anilin oil and hydrochloric acid, and a dissolving violet color.
864. Fuerth, W. G. 437588. 1890.
Condensed ink. Vaseline, fatty substance, and color.
- *865. Higgins, C. M. 437780-81. 1890.
Printers' or stamping ink. Oleic acid, essential oil and color. Essential oil in which is dissolved anilin green.
866. Simpson, D. C. 442463. 1890.
Composition for fixing ink. Soluble acetate of lead, potassium chlorate, and copper acetate.
867. Oliphant, D. S. 443375. 1890.
Marking ink.
868. Watson, E. 458741. 1891.
Drawing and marking ink. Coal tar and sulphuric acid at a temperature not over 200° F, washing out the acid, and treating with alkali.

Patents — United States, continued.

869. Surby, R. W. 459691. 1891.

Fluid for rendering oil paint indelible.

870. Just, T. W., and others. 465860. 1891.

Writing ink. Carbon black, caustic soda, oxalic acid, india ink, vanadium, aleppo galls, nut galls, gum arabic, anilin, and water.

***871. Higgins, C. M.** 483446-47. 1892.

Stamping and printers' ink. Fixed oil or fat, carbolic acid, and color. Also castor oil, oil of cassia or other essential oil.

***872. Hoz, A.** 486873. 1892.

Ink for printing textiles.

***873. Dorn, L.** 511292. 1893.

Machine for grinding printers' and lithographic ink.

874. Wexler, G., and E. NIENSTAEDT.

517371. 1894.

Ink making device. Uses coil of absorbent cotton holding chemical ink.

***875. Bibby, J., and J. BIBBY.** 519032. 1894.

Printers' ink. Cotton seed foots as a base.

876. Pope, W. M. 521177. 1894.

Canceling and stamping ink. Rosin oil, lamp-black, rosin soap, coal tar acid.

877. Nienstaedt, E. 523863. 1894.

Solid ink. Granules of hard non-porous matter covered with a layer of dry ink.

878. Sharp, S. H. 551327. 1895.

Bronzing liquid for stencil printing.

879. Lewis, H. J., and S. L. BELLMAN.

574437. 1897.

Ink for writing on blueprints. Solid acid oxalate and neutral carbonate of an alkali mixed to give neutral reaction to test paper.

***880. Ogilvy, D. J.** 587852. 1897.

Printers' ink. Black pigment, oil or oils, and resinous substances subjected to injected steam.

881. Dunlap, L. E. 590139. 1897.

Effervescent ink, using combination of acid and alkali.

***882. Hall, F. B.** 606542. 1898.

Printers' ink. Water, sugar, gum arabic, salicylic acid, color, and glycerin.

883. Ngaire, H. G. 614544. 1898.

Branding composition.

884. Lichtentag, I., and A. LICHTENTAG.

614734. 1898.

Writing ink. Process of suspending carbon in water by means of soap.

***885. Eschenbach, A. C., and L. SIELKE.**

615613. 1898.

Ink for printing on tobacco or cigars.

886. Canode, F. B. 617315. 1899.

Stencil ink. German green soap, glycerin or glucose, and a pigment.

887. Hochstetter, R. W. 619889. 1899.

Canceling ink. Nigrosine dissolved in oleic acid, and diluted with a non-drying oil.

888. Scott, H. W. 629526. 1899.

Branding liquid.

889. Klein, E. 646122. 1900.

Ink for marking cigars and tobacco. Lanolin and a pigment.

890. Kretschmann, E. 650901. 1900.

Sympathetic ink for coating paper.

***891. Ogilvy, D. J.** 657179. 1900.

Printers' ink. Heats pigment and vehicle, agitates mass while temperature is maintained, and strains in heated condition.

***892. Schepp, J. J.** 669552. 1901.

Composition for adding to lithographic ink. Tallow, lard, beeswax, oil of lavender, and starch.

893. Millison, B. 671972. 1901.

Stamping ink. Castile soap, pigment, and glycerin.

894. Kretschmann, E. 673400. 1901.

Sympathetic ink for coating paper.

895. Lawton, E. P. 690862. 1902.

J.S.C.I., 1902, v. 21, p. 250.

Copying ink. Nutgalls, ferrous sulphate, sugar, chloride of ammonia; also carbolic acid.

***896. Adelsberger, J., and H. FRIEDMANN.**

710233. 1902.

Lithographic ink. Varnish, glycerin, alkaline salt, tartar, and resinous oil.

***897. Wass, A. G.** 716318. 1902.

J.S.C.I., 1903, v. 22, p. 103.

Printers' ink and varnish, using heavy mineral oil and rosin.

898. Spohn, H. H. 719623. 1903.

J.S.C.I., 1903, v. 22, p. 293.

Chemical and wash proof ink. Prussian blue, tannin, anilin dye, carbolic acid.

899. Brown, T. H., and J. E. STAPLES.

720779. 1903.

Branding fluid.

***900. Fisher, F.** 730897. 1903.

Printers' ink reducer. Varnish, copaiba balsam, japan drier, sweet oil, and citron oil.

901. Spohn, H. H. 741734. 1903.

Marking and stamping ink. Nigrosine base, toluidin, rosin oil, tar.

901a. Chapin, M. H. 749684. 1904.

Mon. sc. B., 1905, série 4, v. 19, p. 16.

Paper and method of making same for obtaining fast copies from writings in anilin inks.

902. Pope, W. C. 751554. 1904.

Effervescent ink tablet. Effervescent base, oxalic acid, bicarbonate of soda, sodium chloride, acacia, and color.

903. Spohn, H. H. 769774. 1904.

Canceling ink. Water soluble color base, acid soap, and non-drying oil; also lampblack and carbon black, and kerosene, with process.

904. Schwarzschild, S. 822556. 1906.

Safety writing ink. Hydroxide of alkali metal, an iodide, a nitrite, and a weak acid.

***905. Friedmann, H.** 824475. 1906.

Adaptation of ordinary printing inks to lithographic printing.

906. Wenner, M. C. 834955. 1906.

Marking ink for embroidery. Paraffin, ultramarine blue, chalk, prussian blue, cream of tartar.

***906a. Homolka, B., and J. ERBER.**

839590. 1906.

Compound of organic colors with fatty acids for printers' ink base. Process for dissolving sebates and oleates in water.

Patents — United States, continued.

- *907. Klein, E. 841156. 1907.
J.S.C.I., 1907, v. 26, p. 421.
Printers' ink. Incombustible substance retaining its appearance under influence of 400° C., and a mixture of fatty matters, or a volatile oil.
908. Mörpurgo, G. 849413. 1907.
Sizing or finishing media from starch.
- *909. Fireman, P. 857044. 1907.
Printers' ink pigments. Process of precipitating black ferro-ferric oxide.
910. Meyer, O. 866293. 1907.
Sympathetic ink for coating paper.
911. Hauser, J. 875174. 1907.
Branding or marking composition.
- *912. McMaster, M. E. 877219. 1908.
C. A., 1908, v. 2, p. 1502.
Printers' ink which will not "print back." Uses milk.
- 912a. Nowalk, R. F. 878662. 1908.
Lange, v. 3, p. 232; C. A., 1908, v. 2, p. 1753.
Ink remover.
913. Thomas, B. R. 878689. 1908.
Lange, v. 3, p. 232; C. A., 1908, v. 2, p. 1753.
Ink remover. Oil, alcohol, glycerin, and acid.
914. Mayer, A. R. 878817. 1908.
C. A., 1908, v. 2, p. 1753.
Ink remover for tracing cloth. Sweet spirit of niter, hydrogen peroxide.
915. Gallagher, J. R. 895248. 1908.
Renewing process for printing ribbons.
- *916. Potter, H. N. 908132-33. 1908.
J.S.C.I., 1909, v. 28, p. 151.
Printers' ink using silicon oxide.
917. Pellew, C. E. 911327. 1909.
Stencil ink. Basic color, volatile organic acid, tannin, and gummy matter.
- *918. Pignone, E. 918903. 1909.
Printers' transfer ink. Zinc white, antimony trisulphide, baking powder, starch, tartaric acid, sodium bicarbonate, varnish, rosin, coal tar naphtha, and turpentine.
- 918a. Wild, C., Jr. 919410. 1909.
C. A., 1909, v. 3, p. 1818.
Indelible marking pencil. Paraffin, printers' ink and lampblack.
919. Hochstetter, R. 928450. 1909.
J.S.C.I., 1909, v. 28, p. 879.
Ink for stencil sheets. Pigment ground in glycerin and sulphonated oil.
920. Hochstetter, R. 928915. 1909.
J.S.C.I., 1909, v. 28, p. 880.
Mimeograph ink. Pigment ground in glycerin and sulphonated oil.
- *921. Charles, P., and S. FAUJAT.
929913. 1909.
Intaglio ink. Gelatine base, water, color, and fatty constituent.
- *922. Hopkins, M. S., and C. R. BARNETT.
932470, 932548, 932549, 932550. 1909.
J.S.C.I., 1909, v. 28, p. 1049; C. A., 1909, v. 3, p. 2632-2633.
Apparatus for recovery of ingredients of oily ink.
923. Whitty, G. S. 953110. 1910.
Stencil ink. Coloring matter, an aldehyde, salt, glycerin, and adhesive.
- 923a. Weinberg, S. 959185. 1910.
Mon. sc. B., 1911, série 5, v. 1-2, p. 118.
Ink for stamping pads. Zinc white, glycerin, gum arabic, shellac, borax, water.
924. Farup, P. 966815. 1910.
Coloring matter from titaniferous iron minerals.
925. Fuerth, W. G. 970439. 1910.
C. A., 1910, v. 4, p. 3306.
Stencil ink. Water, glycerin, soap, and magnesium carbonate.
926. Kasseker, J. 971280. 1910.
J.S.C.I., 1910, v. 29, p. 1206; C. A., 1910, v. 4, p. 3289.
Ink for ceramic transfers. Non-drying thinning liquid, and linseed oil saturated with a lead compound.
927. Morse, C. F. 979542. 1910.
J.S.C.I., 1911, v. 30, p. 141; C. A., 1911, v. 5, p. 1000.
Transfer ink. Color, glucose, corn syrup, and glycerin, with process for same.
928. Stockmann, M. F. C. 987926. 1911.
Ink to produce raised characters for the blind.
- *929. Henkel, H., and O. GESSLER.
988874. 1911.
C. A., 1911, v. 5, p. 2176; Mon. sc. B., 1912, série 5, v. 2, p. 30.
Removing printers' ink from paper.
- *930. Meixell, W. B. 989023. 1911.
C. A., 1911, v. 5, p. 2176.
De-inking process, using whiting.
931. Collinson, R. W., and C. W. COLLINSON.
993348. 1911.
Branding composition.
932. De Lanoy, H. N. 994724. 1911.
Ink stick.
- *932a. Henderson, C. 996642. 1911.
C. A., 1911, v. 5, p. 2744.
Removing offset ink from press. Uses atomized jets.
- 932b. Ellis, C. 997910. 1911.
C. A., 1911, v. 5, p. 2979.
Composition for erasing ink from tracing paper.
- *932c. Walker, F. H., and C. E. SOHN.
999611. 1911.
C. A., 1911, v. 5, p. 3173; Mon. sc. B., 1912, série 5, v. 2, p. 63.
Printers' ink from mineral oil residuum.
- *932d. Ramage, A. S. 1004078. 1912.
C. A., 1912, v. 6, p. 302; Mon. sc. B., 1912, série 5, v. 2, p. 159.
Printers' ink. Stearate or oleate, chrome yellow, linseed oil.

Patents — United States, continued.

- 933. Bonser, J. E.** 1008779. 1911.
Ink remover.
- 934. Fuerth, W. C.** 1013544. 1912.
J.S.C.I., 1912, v. 31, p. 140; C. A., 1912, v. 6, p. 688.
Stencil ink. Acetated glycerin, rapeseed oil, dextrin, zinc oxide, barium sulphate, and color.
- *935. Hopkins, M. S.** 1021737-38. 1912.
J.S.C.I., 1912, v. 31, p. 444.
Recovery of oily ink from cloths.
- 936. Goldberg, H. E.** 1034103-04. 1912.
J.S.C.I., 1912, v. 31, p. 784; C. A., 1912, v. 6, p. 2676.
Electrically conducting writing ink. Deflocculated graphite and a volatile liquid.
- 937. Patten, W. D.** 1035229. 1912.
C. A., 1912, v. 6, p. 3333.
Writing ink, using aluminate of soda and phosphoric acid.
- 938. Schmitt, C. A.** 1050236. 1913.
C. A., 1913, v. 7, p. 871.
Stencil and stamping ink fixed on paper by addition of water.
- 939. Harrington, A. W., and others.**
1063791. 1913.
Composition for stencil sheets.
- *940. Putnam, F. A.** 1082099. 1913.
C. A., 1914, v. 8, p. 830.
Printers' ink. Water-repellent base dissolved in carbolic acid mixed with color.
- 941. Price, T. M.** 1088840. 1914.
J.S.C.I., 1914, v. 33, p. 429; C. A., 1912, v. 6, p. 293; 1914, v. 8, p. 1515.
Finger-print ink. Fat solid at 35° C., color, glycerin, and carbon.
- *942. Wolff, M.** 1094288. 1914.
J.S.C.I., 1914, v. 33, p. 557.
Printers' ink. Partly carbonized fibrous vegetable material, alkaline silicate, oil, and color.
- *943. Schuetze, L., and R. FISCHER.**
1096198. 1914.
C. A., 1914, v. 8, p. 2228.
Printers' ink, using albumin.
- *944. Krapf, E. F.** 1097981. 1914.
J.S.C.I., 1914, v. 33, p. 798.
Printers' luminous ink. Colloidal material impregnated with radio-active substances.
- 945. Gibson, W. H.** 1101795. 1914.
Branding composition.
- *946. Hochstetter, R.** 1119960. 1914.
J.S.C.I., 1915, v. 34, p. 92; C. A., 1915, v. 9, p. 248.
Printers' ink and apparatus. Mixes pulp color with varnish in partial vacuum, at same time subjecting ink to a temperature adapted to vaporize the moisture, and drawing off vapor as it is formed.
- *946a. Walker, A. B., and F. P. WALKER.**
1131578. 1915.
Lithographic ink varnish based on aluminum soap.
- *947. Cline, M., and C. F. RHODES.**
1138085. 1915.
Ink remover for paper stock.
- 947a. Oppenheim, S. R.** 1141482. 1915.
Vegetable black from sea-weed.
- *948. Posse, G. E.** 1142365. 1915.
Ink for intaglio or photogravure. Casein, alkali salts, sulphonated oils with lake colors, carbon black, mineral dyestuffs, ethereal oils, and water.
- *948a. Lipsius, S.** 1146182. 1915.
Relief engraving ink. Glycerin or dextrine and an improved fusible shellac gum.
- 949. Nienstadt, A. E.** 1155676. 1915.
Color cartridge for ink wells.
- *949a. Gessler, A. E.** 1157525. 1915.
Disazo dyes for printers' inks.
- *949b. Lipsius, S.** 1158065. 1915.
Relief engraving ink. Linseed oil (or rosin) and oily agent, with shellac.
- 950. Hochstetter, R.** 1158131. 1915.
J.S.C.I., 1915, v. 34, p. 1217.
Mimeograph ink. Pigment ground in oil.
- 950a. Beatty, W. A.** 1158962. 1915.
Gum adapted to the making of indelible and marking inks.
- 951. Mossman, J.** 1159857. 1915.
Transfer marking ink for embroidery fabrics or sheets. Color, linseed oil, beeswax, and turpentine.
- *952. Bullinger, C. J.** 1162027. 1915.
Ink for printing on cloth in easily removable characters. Gelatine, glue, water, zinc white, glycerin, thymol.
- *953. Turkin, N. W.** 1164036. 1915.
J.S.C.I., 1916, v. 35, p. 130.
Manufacture of printing colors. Colloidal solution of color pigment, alizarin oil, varnish, animal fatty substance, and liquid solvent.
- *953a. Blangey, L.** 1166808. 1916.
Yellow printers' and litho inks based on compounds containing poly-atomic group containing oxygen and less than 4 atoms when mixed with metal compound as substratum.
- *953b. Scholz, P. J. A.** 1167939. 1916.
Ink for making relief printing surfaces.
- 953c. Jorgenson, H.** 1170273. 1916.
Finger print ink.
- *953d. Ellis, C.** 1179414. 1916.
J.S.C.I., 1916, v. 35, p. 642.
Thickening of printers' ink oils by ultraviolet light.
- *953e. Ellis, C.** 1180025. 1916.
J.S.C.I., 1916, v. 35, p. 642.
Thickened oil product for printers' inks, using ultraviolet rays.
- *953f. Lilienfeld, L.** 1188376. 1916.
J.S.C.I., 1916, v. 35, p. 887.
Alkyl ethers of cellulose for printers' inks and thickeners.
- 953g. Waite, E. E.** 1188588. 1916.
Aluminium ink for marking brake linings.
- 954. Kaelble, K.** 1194743. 1916.
Transfer ink. Water, finely divided pigment, and a non-pigment binder.

Patents—United States, continued.

- 955. Pickering, O. W.** 1195604. 1916.
J.S.C.I., 1916, v. 35, p. 1026.
Aluminous pigment.
- 956. Schrader, A.** 1195612. 1916.
Acid and water-proof ink. Silesian soluble blue, oxalic acid, nigrosin, india ink, and water.
- 957. Hochstetter, R.** 1198440. 1916.
J.S.C.I., 1916, v. 35, p. 1123.
Black mimeograph ink. Carbon black, mineral oil, and a sulphonated oil.
- 958. Hochstetter, R.** 1198441. 1916.
J.S.C.I., 1916, v. 35, p. 1123.
Colored mimeograph ink. Colored pigment or lake color in a mineral oil, and turkey-red oil.
- 959. Hochstetter, R.** 1198442. 1916.
J.S.C.I., 1916, v. 35, p. 1123.
Mimeograph ink. Dyestuff in alcohol, mineral oil, turkey-red oil.
- *960. Acheson, E. G.** 1201994. 1916.
J.S.C.I., 1916, v. 35, p. 1226.
Printers' ink. Deflocculated or non-deflocculated pigment particles associated with a vehicle, with process.
- *961. Putnam, F. A.** 1203779. 1916.
J.S.C.I., 1916, v. 35, p. 1267.
Printers' ink. Gum in oil, metallic color, and non-metallic color.
- *962. Rogers, A.** 1224668. 1917.
J.S.C.I., 1917, v. 36, p. 724.
Printers' ink. Asphalt base, petroleum residue, thinning oil, rosin, and pigment.
- 963. Wright, I. J.** 1226735. 1917.
J.S.C.I., 1917, v. 36, p. 708.
Ink removing compound.
- 964. Hochstetter, R.** 1226884. 1917.
J.S.C.I., 1917, v. 36, p. 894.
Mimeograph ink. Pigment, sulphonated oil, glycerin, and a gum varnish.
- 965. Sullivan, F. R.** 1228259. 1917.
Writing ink. Transparent gloss varnish, white chalk, turpentine, and sassafras oil.
- *966. Billings, W. T.** 1233962. 1917.
Medicated printers' ink. Nutgalls, fir balsam, extract of hemlock, beeswax, balsam pine, carbolated vaseline, printers' varnish and oil.
- *967. Baumgardner, F. J.** 1234264. 1917.
Printers' ink. Ground oyster shells, varnish, color.
- *968. Woolley, G. C.** 1237136. 1917.
Printers' ink. Aluminium salt of a fatty acid, hydrocarbon oil, and pigment.
- 969. Ohashi, H.** 1238188. 1920.
Carbon paper and ink.
- *970. Werst, J. J.** 1249575. 1917.
J.S.C.I., 1918, v. 37, p. 86a.
Process of separating impurities from waste fibrous materials.
- 970a. Mott, W. R.** 1259121. 1918.
J.S.C.I., 1918, v. 37, p. 313a.
Manufacture of lampblack.
- *970b. Franche, C. E.** 1259505. 1918.
Adapts printers' ink to coloring electric light bulbs.
- 970c. Alexander, J.** 1259708. 1918.
J.S.C.I., 1919, v. 38, p. 263a.
Process of producing matter in a finely divided state, using a "colloid protector."
- *971. Baumgardner, F. J.** 1259713. 1918.
"Non-skin" printers' ink. Mineral oil, asphaltum, and pigment; compounded by the "cold process."
- 971a. Lewis, G. C.** 1263082. 1918.
J.S.C.I., 1918, v. 37, p. 383a.
Process for increasing miscibility of carbon black or of lampblack.
- *971b. Ogilvy, D. J.** 1268142. 1918.
J.S.C.I., 1918, v. 37, p. 520a.
Carbon pigments for printers' inks.
- *971c. Morris, P., and J. O. BRYANT.** 1269487. 1918.
Adapts ordinary writing ink to the making of a safety printers' ink.
- *972. Rackle, C. H.** 1272092. 1918.
Smut-preventing composition for printers' ink. Tal-low, varnish, starch, paraffin oil, oil of citronella.
- *973. Haas, W. N., and H. C. YOUNG.** 1273361. 1918.
Reducer for printers' ink. Petrolatum, magnesium carbonate, and sodium silicate.
- *973a. Baumgardner, F. J.** 1276861. 1918.
J.S.C.I., 1919, v. 38, p. 22a.
Printing colors, substituting finely ground oyster shells for aluminium hydrate.
- 974. Shinozaki, M.** 1282302. 1918.
J.S.C.I., 1919, v. 38, p. 22a.
Writing ink. Carbonaceous substance dissolved in caustic alkali, a dyestuff, lampblack, and soft soap.
- *975. Barton, L. E., and H. A. GARDNER.** 1283455. 1918.
J.S.C.I., 1919, v. 38, p. 46a.
Printers' ink based on titanic acid.
- *975a. Barton, L. E., and H. A. GARDNER.** 1286916. 1918.
J.S.C.I., 1919, v. 38, p. 151a.
Lake pigments based on titanic oxide.
- 976. Jeanmaire, L.** 1289793. 1918.
Indelible ink. Logwood, potassium bichromate, alum, nut galls, gum arabic, sodium carbonate, nitrate of silver, water.
- 977. Schmidt, E. E.** 1296858. 1919.
Safety writing ink. Ferro-cyanide of iron, oxalic acid, epsom salts, turkey-red oil, water.
- 977a. Lane, G.** 1300178. 1919.
Ink for titles on moving picture films. Adds cottonseed oil and citronella oil to printing ink.
- 978. Kruse, H., and W. C. KRUSE.** 1309292. 1919.
Mimeograph ink. Turkey-red oil, glycerin, lake on alumina hydrate base, and alumina hydrate.
- *979. Byrne, P. S.** 1316531. 1919.
To prevent smut of printers' ink.
- 980. Luscher, L. W.** 1320631. 1919.
Indelible ink. Asphaltum, a solvent, anilin oil, methyl salicylate.
- 981. Akashi, K.** 1325971. 1919.
J.S.C.I., 1920, v. 39, p. 165a.
Solid ink. Soluble dye, dextrin, gum tragacanth, thymol, lactic acid, water.

Patents—United States, continued.

- 981a. Ohashi, H.** 1328188. 1920.
J.S.C.I., 1920, v. 39, p. 264a.
Carbon paper and ink. Soluble anilin dye, calcium chloride, emulsifier, and emulsifiable substance.
- *981b. Leitner, E.** 1329088. 1920.
Ink for metal printing plates. Printers' ink and tar oil.
- 982. Tsutsumi, M.** 1334722. 1920.
Solid ink. Extracts of logwood and galls, sodium salicylate, potassium ferrous tartrate, gum arabic, and a water soluble dye.
- *982a. Dixon, W. H.** 1341012. 1920.
Match ignition printing composition. Copal varnish, alumina, peroxide of lead, amorphous phosphorus, turpentine.
- *983. McMurray, S. M.** 1342638. 1920.
Pigment for smear-proofing.
- 983a. Little, C. H.** 1343978. 1920.
Non-clogging drawing ink, for use on transparent paper or tracing cloth. Based on vanadium salt.
- 984. Goodworth, E.** 1347454. 1920.
Writing and engrossing ink. Soluble blue, mild alkali, and a dye assisting agent.
- 985. Carvalho, D. N.** 1353720. 1920.
Safety composition to be applied to writing.
- *986. Heidorf, C. J.** 1358151. 1920.
Binding composition for printing wall paper.
- 987. Cushman, A. S.** 1361833. 1920.
Ink remover. Dilute potassium permanganate solution, oxalic acid, with addition of hydrogen peroxide.
- 988. Olsen, J. C.** 1364406. 1921.
Ink stick.
- 988a. Yoshizawa, T.** 1365760. 1921.
Non-corrosive ink. Adds borax and dextrin to ordinary ink.
- 988b. Marbury, R. E.** 1373012. 1921.
Electrically resisting ink using titanium carbide.
- *988c. Horwitz, A.** 1373886. 1921.
J.S.C.I., 1921, v. 40, p. 358a.
Neutralized sulphonated resin for printers' ink.
- *988d. Randel, F. L.** 1374607. 1921.
J.S.C.I., 1921, v. 40, p. 397a.
Sulphated oils for printing and typewriter inks.
- 989. Kruse, H., and W. C. KRUSE.**
1381648. 1921.
Stencil ink. Alumina black base, glycerin, and turkey-red oil.
- *990. Barmier, H. A.** 1383512. 1921.
Printers' ink. Gilsonite, fuel oil, and color.
- *990a. Feran, R. L.** 1388418. 1921.
Prevents "offset" of printers' ink by rapid drying with ozone.
- 991. Kruse, H.** 1393142. 1921.
Transfer ink, using stearin pitch.
- *991a. Marr, R. A.** 1396227. 1921.
J.S.C.I., 1922, v. 41, p. 10a.
De-inking process.
- 992. Porter, J. J.** 1402442. 1922.
Sympathetic ink.
- *993. Dales, B.** 1404345. 1922.
Printers' ink. Algin and glycerin.
- *994. Evans, W. W., and B. DALES.**
1404355. 1922.
Printers' ink. Glycerin, syrup, water solution of glue, and a pigment.
- *995. Ghegan, H. G.** 1406183. 1922.
Cleaning solvent for printers' ink. Kerosene and alcohol.
- *996. Fitzgerald, F. C.** 1406837. 1922.
Lange, v. 3, p. 205.
Additive for lithographic ink. Glycerol, calcium chloride, potassium phosphate, carbolic acid, and liquid gum.
- *997. Holmes, H. N., and D. H. CAMERON.**
1410012. 1922.
J.S.C.I., 1922, v. 41, p. 335a.
Printers' or lithographic ink. Process for emulsion of the "water-in-oil" type.
- *998. Ishida, K.** 1410572. 1922.
Printers' ink. Color, mineral oil, resin, soluble silicate, water insoluble soap, catechu, gum arabic, and formaldehyde.
- *999. Schmidt, E. E.** 1420289. 1922.
Marking, printing, and safety ink. Nigrosine, mirbane, carbolic acid, turkey-red oil.
- *999a. Fireman, P.** 1420985. 1922.
J.S.C.I., 1922, v. 41, p. 639a.
Preparation of ferric oxide for dark brown printers' pigments.
- *1000. Buck, H. A.** 1421125. 1922.
J.S.C.I., 1922, v. 41, p. 639a.
Non-inflammable printers' ink. Binder of shellac, borax, and water.
- *1001. Eyrich, H. R., and J. A. SCHREIBER.**
1421195. 1922.
J.S.C.I., 1922, v. 41, p. 628a.
De-inking process.
- 1002. Schiffmann, J.** 1421728. 1922.
J.S.C.I., 1922, v. 41, p. 640a.
Indestructible black stamp dye.
- 1003. Garvey, E. S.** 1422957. 1922.
Waterproof ink for metals. Anilin dye, alcohol, shellac.
- 1004. Morse, C. F.** 1423246. 1922.
J.S.C.I., 1922, v. 41, p. 677a.
Invisible ink. Basic ferric sulphate and phosphoric acid.
- *1004a. Jespersion, T.** 1424411. 1922.
J.S.C.I., 1922, v. 41, p. 748a.
De-inking process.
- 1005. Glass, C. F.** 1429338. 1922.
Finger-print ink. Asphaltum, flour, talc powder, and silicon.
- *1005a. Holmes, H. N., and D. H. CAMERON.**
1429430. 1922.
"Water-in-oil" emulsion for printing and lithographic inks.
- *1005b. Buckman, H. H.** 1429841. 1922.
J.S.C.I., 1922, v. 41, p. 868a.
Preparation of titanium compounds for printers' inks.
- *1005c. Acheson, G. W.** 1431079. 1922.
J.S.C.I., 1922, v. 41, p. 906a.
Process of preparing pigment-oil-water emulsions.

Patents—United States, continued.

*1006. **Brenizer, G. W.,** and **C. C. HUTSON.**
1436856. 1922.

Printers' ink. Yellow dextrin, sodium bicarbonate, pigment, and water.

1007. **Dick, A. B.,** and **E. W. HILL.**
1439356. 1922.

Stencil ink. Color, sulphonated oil, rosin oil, soap, alumina phosphate.

1008. **Shinozaki, M.** 1439489. 1922.

Copying ink. Hydrochloric acid, methyl violet, and funori.

*1009. **Farkas, L. L.** 1439623. 1922.

Anti-smearing composition. Precipitated chalk, zinc oxide, barium sulphate, and rapeseed oil.

1010. **Balser, J. W.** 1439658. 1922.

Writing ink. Carbolic acid, denatured alcohol, water, sugar, and dye.

*1011. **Doughty, H. W.** 1439695-96. 1922.

J.S.C.I., 1923, v. 42, p. 1032a.

Metallic ink for book-binders. Metallic pigment, benzyl alcohol, benzoin, canada balsam, benzyl acetate.

1012. **Cross, R.** 1441664. 1923.

Indelible ink. Water, prussian blue, oxalic acid, methylene blue, and ammonium molybdate.

*1013. **Schwenterley, A.** 1447734. 1923.

Rotogravure ink. Petroleum product and carbon tetrachloride.

1014. **Snelling, W. O.** 1449067. 1923.

J.S.C.I., 1923, v. 42, p. 464a.

Process of making pigments of sub-microscopic size. p-aminophenol chloride, anilin chloride, p-aminophenol, ammonium tannate (and gallo tannate), anilin black.

1015. **Hilton, R. W.** 1449943. 1923.

J.S.C.I., 1923, v. 42, p. 464a.

Duplicating machine ink. Color, alkaline salt of a sulphonated oil, tri-methylene glycol, aluminum hydroxide.

*1016. **McElroy, W. J.,** and **J. CLARKE.**
1450692. 1923.

Metallic printers' ink. 1: Coumaron resin, terpeneol, rosin oil, and metallic pigment. 2: Non-acid synthetic resin, non-acid solvent, and metallic pigment.

1017. **Kruse, H.,** and **W. C. KRUSE.**
1464944. 1923.

Stencil ink. Turkey-red oil and ground carbon.

*1018. **Herbein, G. W.** 1469414. 1923.

Printers' ink. Fusel oil, rosin, copper nitrate, calcium chloride, sodium hydrate, sodium silicate, lineolate of lead, pigment, drier, and water.

*1019. **McElroy, W. J.,** and **J. CLARKE.**
1471746. 1923.

Printers' ink. Neutral vehicle for pigments.

1020. **Dement, R. R.** 1471884. 1923.

Ink for drawing designs. Carbonate, pigment, and gum acacia.

1021. **Goldsmith, B. B.** 1472063-65. 1923.

Ink cartridge.

1022. **Goldsmith, B. B.** 1472067. 1923.

Ink cartridge.

1023. **Goldsmith, B. B.** 1473700. 1923.

Ink cartridge.

1024. **Coppon, T. W.** 1475932. 1923.

Ink remover. Alkali hypochlorite, decolorizing of resulting product, and treating with alkali phosphate.

*1024a. **Mock, W. W.** 1479047. 1924.

Gritless printers' ink. Carbon and lubricating oil under centrifugal action.

1025. **Cooney, F. B.** 1479533. 1924.

Ink paste. Gallic acid, ferrous sulphate, hydrochloric acid, carbolic acid, glycerin, indigotin.

1026. **Marston, T.,** and **W. S. LAWRENCE.**
1487873. 1924.

Transfer indelible ink, using stearic acid and an indulin base.

1026a. **Jackson, F. E.** 1488881. 1924.

Composition for removing india ink from drawing and tracing paper.

*1027. **McElroy, W. J.** 1489356-57. 1924.

Printers' metallic ink.

1027a. **Hale, A. B.** 1492454. 1924.

Ink for marking fruit, using paraffin base.

1028. **Bock, A. C. O.** 1497971-72. 1924.

Finger-print ink. White resin, and color, fixed by heat.

1028a. **Reitze, E.,** and **E. TRUJILLO.**
1506082. 1924.

Finger-print ink for documents. Glycerin, gelatin, alcohol, and powdered color.

*1028b. **Imhof, J.** 1507358. 1924.

Printers' ink with colors that are developed after printing.

GREAT BRITAIN

The Library has complete specifications and classified abridgments.

1029. **Holman, C.** 258. 1688.

"A certain powder, which being put into faire water, beer, ale, or wine, doth immediately turn into very good black writing ink."

*1030. **Bahre, J.** 702. 1755.

Printers' ink for textiles and paper in gold, silver, and brocade colors. Several recipes.

1031. **Cummings, G.** 809. 1764.

Repertory, 1797, v. 7, p. 231.

Delible writing surface. White lead, plaster of paris, lime, water, size, linseed oil varnish, with colors if desired.

1032. **Dring, J.** 906. 1768.

Solid ink. Sweet oil, vinegar, galls, copperas, gum arabic, alum.

*1033. **Rowley, J.** 1012. 1772.

Playing card ink. Linseed oil and alum instead of water.

1034. **Watt, J.** 1244. 1780.

Repertory, 1794, v. 1, p. 13.

Copying ink. Water, galls, green copperas or green vitriol, gum arabic, and roach alum.

Patents—Great Britain, continued.

*1035. **Koops, M.** 2392. 1800.

Repertory, 1801, v. 14, p. 225.

De-inking process.

*1036. **Senefelder, J. A.** 2518. 1801.

Process of lithography with recipes for inks.

1037. **Foelsch, F. B., and W. HOWARD.**

3214. 1809.

Repertory, 1809, series 2, v. 15, p. 206.

Ink for copying paper. Frankfort black and butter ground smooth.

*1038. **Martin, T., and C. GRAFTON.**

4601. 1821.

Repertory, 1823, series 2, v. 43, p. 257;
Lond. jour., 1822, v. 4, p. 73.

Spirit-black as a substitute for lampblack in printers' ink.

1039. **Smith, J., and W. DOLIER.** 6182. 1831.

Repertory, 1832, series 3, v. 13, p. 332;
Lond. jour., conjoined series, 1832, v. 1, p. 419.

Copying ink. Gum arabic, lampblack, and water.

*1040. **Leggett, H. H.** 6515. 1833.

Lond. jour., 1841, conjoined series, v. 17, p. 377.

Printers' colored ink. Logwood and acetate of copper with colors.

1041. **Dunkin, T.** 6831. 1835.

Lond. jour., conjoined series, 1836, v. 7, p. 218.

Copying ink. Adds sugar candy and deliquescent salt to ordinary writing ink. For black lines, sulphate of iron, gall nuts, sugar candy, and lampblack.

*1042. **Bird, J.** 6906. 1835.

Repertory, 1836, new series, v. 5, p. 363.

Mineral earth as a pigment for printers' ink.

1043. **Aldrich, H. N.** 7341. 1837.

Rendering certain colors adaptable to writing.

1044. **Stephens, H., and E. NASH.**

7342. 1837.

Repertory, 1839, new series, v. 11, p. 50, 58; Lond. jour., 1839, conjoined series, v. 13, p. 207.

Improvements in the manufacture of coloring materials.

1045. **Whitfield, R.** 7474. 1837.

Repertory, 1838, new series, v. 10, p. 41;
Lond. jour., 1838, conjoined series, v. 12, p. 146.

Indelible ink.

1046. **Normandy, A. R.** 8175. 1839.

Repertory, 1839, new series, v. 12, p. 237;
Lond. jour., 1840, conjoined series, v. 16, p. 138.

Process for superseding nut-galls; for treating campeachy wood; for chinese blue; for production of solid, semi-solid, and soluble ink.

*1047. **Poole, M.** 8633. 1840.

Mec. mag., 1841, v. 34, p. 251.

Printers' ink for use on instruction sheets for writing pupils.

1048. **Scott, H.** 8770. 1840.

Repertory, 1841, new series, v. 16, p. 109;
Lond. jour., 1843, conjoined series, v. 21, p. 26; Mec. mag., 1841, v. 35, p. 60.

Writing ink based on nitrate of iron and gas black.

1049. **Roberts, M. J.** 9667. 1843.

Improvements in the composition of ink. No specification.

1050. **Mackenzie, G. T.** 10329. 1844.

Lond. jour., 1846, conjoined series, v. 27, p. 26.

Fluid to be used with copy paper. Permuriate of iron or other per salts. Also two recipes for black indelible ink.

1051. **Reade, J. B.** 11474. 1846.

Several recipes for writing inks.

*1052. **Pratt, G. W.** 12226. 1848.

Repertory, 1849, enlarged series, v. 13, p. 185; Lond. jour., 1849, conjoined series, v. 34, p. 34; Mec. mag., 1849, v. 50, p. 116.

Resin oil as a substitute for linseed oil in printers' inks.

*1053. **Fontaine Moreau, P. A. de.**

12342. 1848.

Printers' ink from refuse of vegetable wax and tallow.

*1054. **Radley, W., and F. MEYER.**

13081. 1850.

Treatment of fatty, oleaginous, resinous, and cerous bodies to be used in printing inks.

*1055. **Goodell, F.** 483. 1853.

Residue in distillation of resin oil as pigment for printers' ink.

*1056. **Gwynne, J.** 1900. 1853.

Process of powdering coal for use in printers' ink.

*1057. **Newton, A. V.** 1920. 1853.

Residue from distillation of resin oil for use in printers' ink.

*1058. **Maumené, E. J.** 2343. 1853.

Black pigment from lignite for use in printers' ink.

1059. **Whitehouse, E. O. W.** 2885. 1853.

Telegraphic ink.

*1060. **De Beauregard, F. A. T.** 945. 1854.

Printing, writing, and stamping inks. Potassium iodide, iodine, water, red chromate of potash, potassium cyanid, gum arabic.

*1061. **Archer, C. M.** 1575. 1854.

De-inking process.

*1062. **Livesey, J.** 32. 1855.

Printers' ink. Litho varnish, resin, and printers' ink.

1063. **Bellford, A. E. L.** 320. 1855.

Boils pieces of old leather with a caustic and treats with silica jelly.

1064. **Murdoch, J.** 531. 1855.

Ink for reducing or enlarging designs. Lampblack and molasses.

1065. **Dépierre, P.** 970. 1855.

Writing ink using decoction of alder flowers.

1066. **Wood, B.** 1676. 1855.

Non-corrosive ink. Carbonate of soda, water, citric acid, cochineal, alum.

Patents — Great Britain, continued.

- *1067. De la Rue, T. 1918. 1855.
Printers' ink based on borate of manganese.
1068. Swan, C., and G. F. SWAN. 342. 1856.
Writing and copying ink. Logwood, potassium bichromate, mercury perchloride, potassium subcarbonate, ammonia.
- *1069. Grant, F. D. 400. 1856.
Odoriferous printers' ink.
1070. Tolhausen, A. 717. 1856.
Ink pencils.
1071. Bufton, E. 738. 1856.
Writing ink using salts of platinum and silver.
- *1072. Morton, A. 842. 1856.
Inks for wall papers.
- *1073. Newton, W. E. 1130. 1856.
Thickening substances for inks to be used on fabrics and wall papers.
- *1074. Underwood, J., and V. BURT. 2206. 1856.
Wag. Jahr., 1857, Jahrg. 3, p. 388; Poly. Cent., 1858, Jahrg. 24, p. 426.
Copying printers' ink. Nutgalls, iron sulphate, gum senegal, treacle, soap, lampblack, prussian blue, water.
- *1075. Ernst, G., and W. LORBERG. 2507. 1856.
Ink for preparing etched printing surfaces.
- *1076. Bardot, H. N. D. 2845. 1856.
Thickening agent for printers' ink.
1077. Underwood, J. 1112. 1857.
Copying ink. Logwood extract treated with potassium chromate.
- *1078. Fleet, C. 1518. 1857.
Unalterable printers' ink based on green oxide of chromium.
1079. Henry, Michael. 1132. 1858.
Wag. Jahr., 1859, Jahrg. 5, p. 540; Lond. jour., 1859, new series, v. 9, p. 94.
Writing and copying inks using glycerin.
- *1080. Stuart, J. 1187. 1858.
Printers' ink pigment from asphalt residue.
1081. Winstone, B. 1996. 1858.
Copying and writing inks. Glycerin.
1082. Gresham, J. H. 2103. 1858.
Copying ink. Malt liquor, logwood, sugar, gall, iron sulphate, gum, cloves, and water.
1083. Dunn, A. 2316. 1858.
Solid marking ink. Powdered silver nitrate and black lead.
- *1084. Viette, P. A. 130. 1859.
Engraving and lithographic ink. Gutta percha, stearine, tallow.
1085. Moss, T. 348. 1859.
Safety ink for special paper. Clay and drying oils.
1086. Ballande, J. A. H. 861. 1859.
Writing ink. Oxides or metallic salts introduced into paper. Ink produces grey characters turning green. Gum water, prussiate of soda or of potash, hyposulphite of soda, etc.
- *1087. Hadfield, G. 1282. 1859.
Heating apparatus for thickening printers' inks.
1088. Barclay, R. 1390. 1859.
Safety inks for banknotes, checks, etc. Prussiates and sulpho-cyanids.
1089. Scoffern, J. 1744. 1859.
Writing ink using "copperized ammonia."
- *1090. Barre, J. B. H. H. R., and J. B. M. E. BARRE. 2024. 1859.
Lithographic transfer ink. Printers' mordant, printers' ink, copal oil, varnish.
- *1091. Collins, H. G. 2081. 1859.
Lithographic transfer ink. Tallow, soap, wax, gum mastic, shellac, and printers' ink.
- *1092. Palmer, J. R. 2399. 1859.
Printers' ink based on "black chromium."
1093. Gilbee, W. A. 2963. 1859.
Uses bark of *rhamnus catharticus* as a substitute for chinese green in textile printing.
1094. Ballande, J. A. H. 388. 1860.
Colorless copying ink for prepared paper. Sodium hyposulphite and alum; or, sodium hyposulphite and a suitable alkali dissolved in water with thickener.
- *1095. Thierry, J. H. 1445. 1860.
For printers' ink uses residue from the distillation of schist.
- *1096. Lambert, B. 1633. 1860.
Recovery of color from printers' ink.
1097. Stevens, C. 2972. 1861.
Indelible anti-corrosive ink with anilin base.
- *1098. Brooman, R. A. 3107. 1861.
Printers' or lithographic ink. Fatty essence, printing varnish, copal varnish.
- *1099. Brooman, R. A. 640. 1862.
Lithographic ink. Uses transfer ink in which lithographic chalk has been ground, with addition of phosphoric acid.
1100. Clark, W. 675. 1862.
Colored writing inks. Anilin, water, alcohol, sugar or gum.
- *1101. Brooman, R. A. 767. 1862.
Printers' ink for glass, ceramic wares, and metallic surfaces. Borate, silicate, or phosphate capable of forming a paste with fatty acids or acid resins.
1102. Roberts, R. P. 1213. 1862.
Copying ink. Water, logwood, gum arabic, molasses, sugar candy, aleppo galls, bichloride of mercury, albemedchus, alcohol, and precipitate black.
1103. De la Rue, T. 2235. 1862.
Indelible writing ink. Gum tragacanth, glycerin, lampblack, salop, acetic acid, water, vinegar, gluten or isinglass. Another recipe uses black product of anilin.
- *1104. Prince, A. 2654. 1862.
Printers' ink. Petroleum substitute for linseed oil.
- *1105. Brooman, R. A. 2771. 1862.
Printers' transfer ink for dressing millstones.
1106. Croc, L. 3074. 1862.
Telegraphic ink. Anilin colors dissolved in bodies of the alcohol series, with addition of resins and waxes.
- *1107. Brooman, R. A. 488. 1863.
Transfer etching ink. Hydrofluoric acid.
- *1108. Rafter, H. 986. 1863.
Transfer ink for making electrotypes.
1109. Friedrich, G. W. E. 1418. 1863.
Acid-proof, color-changing, safety ink. Water, logwood, potassium bichromate, potassium ferrocyanid.

Patents — Great Britain, continued.

- *1110. McLean, J. 1564. 1863.
Printers' ink. Residue from distillation of shale oil.
1111. Goold, J. 1819. 1863.
Writing ink. Subjects a gallate or tannate of an alkali to action of metallic iron.
- *1112. Hughes, E. T. 3204. 1863.
Printers' safety ink. Peroxide of tin, chromium oxide, linseed oil, color.
- *1113. Zacherl, J. 226. 1864.
Ink for printing on paper previously saturated with insect-destroying solution.
- *1114. Gedge, W. E. 571. 1864.
Printers' ink for tin or tinned sheets. Mineral colors (especially lead compounds) and flux ground with lithargized drying oil and varnish.
- *1115. Day, B. 664. 1864.
Ink for preparing a printing surface on chalk. Glue, sugar, lampblack or colors.
- *1116. Green, W. 1354. 1864.
Process for making black pigments.
1117. Moeller, J. 1828. 1864.
Red ink. Madder, cochineal (or other red), alcohol, ether, salt, gum, alum.
1118. Baildon, H. C. 2223. 1864.
Safety ink. Sulphuric acid, indigo, anilin.
1119. Newton, W. E. 2506. 1864.
Writing ink. Aleppo galls, water, green sulphate of iron, gum arabic, cloves.
1120. Moeller, J. 2511. 1864.
Red writing and marking ink. Alizarin, potassium cyanid, etc.
- *1121. Rowley, J. 2854. 1864.
Printers' ink. Cotton oil, resin oil, lampblack.
- *1122. Hancock, C., and S. W. SILVER. 3093. 1864.
Printers' ink for unsized paper or partially sized textiles. Milk of balata or milk of caoutchouc. Also used as wall-paper ink.
- *1123. Hulot, A. A. 330. 1865.
Printers' ink. Non-fatty varnish from honey and glycerin.
- *1124. Brooman, R. A. 807. 1865.
Engraving and intaglio ink. Several recipes using gum arabic, india ink, acid, honey, garlic, water, starch, albumen, and red chalk.
1125. Newton, W. E. 836. 1865.
Process for filtering and introducing air.
- *1126. Scarratt, W., and W. DEAN. 1117. 1865.
For printing transfers or other surfaces in imitation of graining. Ochre, boiled oil, umber, beeswax, sugar of lead.
1127. Bonneville, H. A. 1846. 1865.
Copying ink. Nutgalls, gum arabic, iron sulphate, copper sulphate, sugar, alder wood.
1128. Ellis, H. 2267. 1865.
Use of silicates in non-corrosive writing and copying inks.
- *1129. Brooman, R. A. 2388. 1865.
Specification identical with no. 807 of 1865.
1130. Taylor, J. 2471. 1865.
Macerating pan.
- *1131. Holmes, S. 367. 1866.
Printers' ink. Bone oil pitch, naphtha, lampblack.
1132. Johnson, J. H. 1521. 1866.
Secret telegraphic ink.
- *1133. Holmes, S. 1737. 1866.
Printers' ink using bone pitch.
- *1134. Woodbury, W. B. 1918. 1866.
Printers' plastic ink for the Woodburytype. Transparent mixing oil color, mastic soap, and beeswax; or, water color, starch, etc.
- *1135. Pettitdidier, F. 2719. 1866.
Improved method for printing in relief. Resin (as copal), solvent, drier, and color.
- *1136. Swan, J. W. 3303. 1866.
Printers' and lithographic ink. Prints are fixed by gelatinous ink containing chrome alum or soluble chromates or bichromates.
- *1137. Morvan, A. G. 71. 1867.
Transfer ink for photographic transfers. Asphalt, wax, and pitch dissolved in essence of lavender.
1138. Cooley, A. J. 106. 1867.
Ink powders from dried tinctorial extracts.
1139. Brooman, C. E. 181. 1867.
Telegraphic ink. Bitumen, wax, resin, and suet.
- *1140. Jameson, J. 2715. 1867.
Safety inks for banknotes, checks, etc. Several impressions each with a different kind of ink.
1141. McDermott, C. 977. 1868.
Marking ink pencil.
1142. Jameson, J. 1023. 1868.
Safety ink for banknotes, checks, etc., in connection with safety paper, using various recipes.
1143. Cooke, J. F. 2163. 1868.
Copying writing ink for use on dry paper. Substitutes for 20% to 50% of water in ordinary writing ink, an equal quantity of glycerin, or sugar, treacle, or calcium chloride.
- *1144. Hodge, P. R., and W. HODGE. 2578. 1868.
Improvements in manufacture of brown or black pigments for printers and lithographic inks.
1145. Cooke, J. F. 47. 1869.
Copying writing ink. Similar to his no. 2163 of 1868.
- *1146. Binks, H. B. 439. 1869.
Printers' ink. Indigo, hair, glycerin, and starch.
- *1147. Nissen, H. N. 294. 1869.
Printers' ink for banknotes, etc. Soluble surface color ground with glycerin, starch, flake white, or a syrup.
- *1148. Abel, C. D. 1227. 1869.
Transfer ink. Colors for upper tints ground with linseed oil; the ground tints with spirits.
- *1149. Kircher, J., and E. EBNER. 2890. 1869.
Wag. Jahr., 1870, Jahrg. 16, p. 678; 1875, Jahrg. 21, p. 1042; Ber., 1870, Jahrg. 3, p. 807.
Printers' ink capable of being removed from paper. Iron, acid, alkali, tannic and gallic acids, linseed oil, varnish.
- *1150. May, W. C. 2946. 1869.
Non-oleaginous printing inks.
- *1151. Kloen, W. 2993. 1869.
Ink for water color and transfer printing. Pigment, glycerin, and gum arabic.

Patents—Great Britain, continued.

- 1152. Millar, A.** 475. 1870.
Marking ink. Glycerin and silver nitrate.
- *1153. Lawrence, B.** 1419. 1870.
Printers' ink. Glycerin, saccharine matter, gum, and color.
- 1154. Pinkney, R.** 1863. 1870.
Writing and marking ink. Chloride of anilin, nickel chloride, potassium chlorate, sodium chlorate, water, thickener.
- *1155. Webb, W. G.** 2291. 1870.
Ink for printing on glass.
- *1156. Banks, J. H.** 2304. 1870.
Transfer printers' ink. Shellac, black pitch, asphalt, copal, mastic, castile soap, linseed oil, and litho ink.
- *1157. Guyatt, W. T.** 2375. 1870.
Safety printers' and writing ink for labels, tickets, etc. Mixture of sulphuric or hydrochloric acid (or both) and water, ammonia, and colors.
- *1158. Lake, W. R.** 2762. 1870.
Preparation of petroleum products for printers' inks.
- *1159. Lake, W. R.** 689. 1871.
Printers' inks giving press copy similar to ordinary copying ink. Various recipes.
- *1160. Lambert, J. N.** 1124. 1871.
Lithographic ink. Gelatinous matter dissolved in bichromate of potassium, coloring matter, and soap.
- 1161. Whitehouse, E. O. W.** 1998. 1871.
Telegraphic ink. Water, glycerin, anilin dye.
- 1161a. Nissen, H. N.** 2449. 1871.
Ber., 1872, Jahrg. 5, p. 441; Ding., 1872, v. 205, p. 176.
Safety writing ink. To ordinary writing ink containing iron adds ferro-rubigo and potassium ferrocyanid.
- *1162. Pinkney, R.** 2745. 1871.
Printing, marking, and writing inks with anilin base.
- *1163. De Lara, G., and VISCOUNT M. DE SALOMOS.** 2107. 1872.
Printers' ink for blotting paper. Contains more oils, turpentine, etc., than usual.
- 1164. Hodges, J. F.** 1965. 1872.
Safety inks for bank notes. Ordinary writing ink thickened.
- 1165. Siciñoski, C. L.** 3451. 1872.
Ink for tracing paper. Chromate and india ink.
- 1166. Gutensohn, A.** 258. 1873.
Treats tinplate with acid and precipitates a blue-black deposit which may serve for making ink.
- 1167. Halfpenny, G. W.** 262. 1873.
Ink for incombustible paper. Graphite, copal, iron sulphate, nutgall, indigo.
- *1168. Abney, Sir W. de W.** 615. 1873.
Waterproof ink for transferring designs or writing to lithographic plates. Gelatinous substance and a bichromate to render ink sensitive to light.
- *1169. Capreel, G. G.** 760. 1873.
Substitute for gold or bronze dust in lithographic printing, stamping, etc. Uses "altum-cummu," an arsenic compound found in Turkey.
- 1170. Lake, W. R.** 1982. 1873.
Process of injecting air into ink.
- 1171. Little, G.** 2133. 1873.
Telegraphic ink. Anilin blue and glycerin.
- 1172. Mackay, G.** 3129. 1873.
Extraction of oils, resins, and coloring matters from fabrics and fibers.
- 1173. Newton, A. V.** 3176. 1873.
Solid indelible ink. Anilin color, logwood, and chromic acid.
- *1174. Kingdon, T. R.** 3598. 1873.
Grinding machinery for printers' ink.
- *1175. Hyatt, T.** 3684. 1873.
Fireproof printers' ink using asbestos.
- 1176. Newton, A. V.** 3814. 1873.
Solid ink. Adds sugar, gum, and an oxalate to any well-known mixture of ink powder and water.
- 1177. Clark, J. L., and E. O. W. WHITEHOUSE.** 4082. 1873.
Ink for registering fares in public vehicles. Glycerin, water, and magenta dye.
- *1178. Thomas, E. G. P.** 4196. 1873.
Printers' ink. Heavy oils and liquid pitches.
- 1179. Clark, A. M.** 208. 1874.
Manufacture of lampblack.
- 1180. Brown, J.** 731. 1874.
Photographic transfer ink. Fatty substances, metallic oxides, and fusible fluxes.
- 1181. Zuccato, E. de.** 1078. 1874.
Copying ink. Potassium ferrocyanid and iron persulphate.
- 1182. Tongue, J. G.** 1839. 1874.
Indelible ink. Lampblack, silicate of potassium, ammonia, and water.
- *1183. Clark, A. M.** 1995. 1874.
"Asteatine" ink for printing, lithography, and plate printing. Color, alcohol, glycerin, and acids.
- 1184. Casthelaz, J.** 2009. 1874.
Preparation of anilin products.
- *1185. Clark, A. M.** 2389. 1874.
Colored lithographic ink for textile printing.
- 1186. Newton, W. E.** 2939. 1874.
Tannin from waste materials.
- 1187. Zuccato, E. de.** 3150. 1874.
Stencil ink. Anilin color dissolved in glycerin.
- *1188. Zingler, M.** 3757. 1874.
Preparation of anilin for textile printing.
- 1189. Clark, A. M.** 3935. 1874.
Telegraphic insulating ink. Sodium silicate, or a mixture of potassium bichromate and a gum, resin, or gelatinous substance.
- *1190. Jensen, P.** 26. 1875.
Transfer ink for metal printing plates. Lampblack and copal varnish.
- *1191. Whitburn, T.** 605. 1875.
Printers' ink for wood. "Burnt oil," resinous varnish, color, turpentine.
- 1192. Wirth, F.** 1236. 1875.
Wag. Jahr., 1876, Jahrg. 22, p. 1064.
Recipe for copying ink pencil. Pencil point shavings in water used for ink.
- *1193. Edwards, E.** 1362. 1875.
Sympathetic printers' ink. Cobalt chloride and water.

Patents — Great Britain, continued.

1194. Clark, A. M. 1620. 1875.
Production of anilin black.
1195. Holyoake, W. R. 1941. 1875.
Transfer ink for vitreous and glazed surfaces.
- *1196. Thacker, H. 2642. 1875.
Ink for metal printing plates. Addition of gold size, turpentine, and gum dammar to ordinary lithographic or printers' ink.
- *1197. Haddan, H. J. 3453. 1875.
Sympathetic ink for textile printing.
1198. Wilkinson, H. M. 4484. 1875.
Wag. Jahr., 1876, Jahrg. 22, p. 1065.
Violet ink. Logwood, water, tungstic acid, acetic acid.
1199. Byford, A. T. 974. 1876.
Black copying ink. Indigo sulphate, logwood, water, alum, nutgalls, iron sulphate. Also recipe for blue or violet ink.
1200. Zuccato, E. de. 1115. 1876.
Stencil ink. Alkaline solution colored with neutral substance. Alkali destroys varnish on paper, and produces porous stencil sheet.
- *1201. Heuer, F. W. 1662. 1876.
Printers' ink for glass. Pigment, copaiba balsam, turpentine, and oil.
- *1202. Zingler, M. 2621. 1876.
Gold, bronze, and silver inks for printing. Albumen and color.
1203. Pinkney, R., and F. D. WARD. 4470. 1876.
Safety ink for banknotes. Ferro or ferri-cyanids with anilin or vegetable colors.
1204. Berly, J. A. 4820. 1876.
Portable ink. Absorbent matter carrying dry ink is steeped in water.
- *1205. Tongue, J. G. 169. 1877.
Printers' ink. Powdered coal treated at high temperature with oxidizing chemicals, and treatment with alkali.
1206. Pumphrey, J. 895. 1877.
Copying ink. Anilin crystals, acetic acid, and glycerin.
- *1207. Williams, M. 950. 1877.
Heating chamber for oils, gums, etc., used in the preparation of printing inks.
- 1207a. Haddan, H. J. 2493. 1877.
Ber., 1878, Jahrg. 11, Teil 1, p. 1003, 1271; Wag. Jahr., 1878, Jahrg. 24, p. 1143.
Ink pencil.
- *1208. Howard, T. 3402. 1877.
Printers' ink. Powdered peat, charcoal, and linseed oil.
- *1209. Guest, E., and T. GUEST. 3432. 1877.
Printers' transfer ink. Beeswax, pitch, japan wax, varnish, turpentine, and a black pigment.
1210. Zuccato, E. de. 3647. 1877.
Stencil ink.
1211. Jacobsohn, N. 3648. 1877.
Writing ink. Anilin, glycerin, sugar, and gum arabic.
1212. Lake, W. R. 1586. 1878.
Copying ink powder. Color, sugar, gum arabic, and syrup.
1213. Wirth, F. 1918. 1878.
Ink for tracing paper. Concentrated solutions of anilin pigments.
1214. Richmond, H., and W. S. RICHMOND. 2636. 1878.
Indelible ink for writing and cancelling. Eosin, anilin colors, cupric chloride, ammonium chloride, sodium chlorate, glycerin, lampblack, water, and oil.
- *1215. Wilson, J. G. 4606. 1878.
Reproducing ink. Color dissolved in alcohol and water.
- *1216. Pixis, T. 5036. 1878.
Printers' transfer ink. Printers' ink mixed with japanese gold size.
1217. Winterhoff, F. 5098. 1878.
Transfer ink. Colors, linseed oil, nut oil, resin, venice turpentine, white wax, suet, and powdered enamelling flux.
1218. Hickisson, J. 5122. 1878.
Marking ink, based on vanadium salts.
- *1219. Haddan, H. J. 141. 1879.
Printers' ink. Metallic powder mixed with a silicate.
1220. Wirth, F. 239. 1879.
Copying ink for leather, paper, fabrics, etc., with apparatus.
1221. Clark, A. M. 526. 1879.
Beads of color pressed into cavity of pen. Coal tar agglutinated with gum, glucose, honey, etc., by means of hot water.
1222. Kissam, A. 861. 1879.
Transfer ink. Concentrated anilin, methylated spirit, gum arabic, and water.
1223. Lake, W. R. 1104. 1879.
Ink for hand stamps. Adds purified oil to greasy inks.
1224. Rosefeld, P. G. 2256. 1879.
Transfer ink for gelatinous copying composition. Color, water, alcohol, sodium bisulphite, ether, vinegar, gum or sugar.
1225. Alisoff, M. 235. 1879.
Transfer ink. Anilin and alcohol. Also printers' ink using anilin and glycerin.
- *1226. Gray, T. H. 2518. 1879.
Printers' ink. Drying oil in current of heated air brought to proper consistency to use as a base.
- *1227. Jefferies, J. E. 3391. 1879.
Printers' ink; transfer ink; writing ink; with anilin base.
1228. Taylor, J. 3499. 1879.
Indelible ink. Cupric chloride, anilin chloride, water, gum arabic, glycerin, potassium chlorate.
1229. L'Heureux, A. D. 3678. 1879.
Transfer ink. Sugar, common ink, black lead, and alum.
1230. Boulton, A. J. 3685. 1879.
Transfer ink for glass. Tallow, beeswax, resin, asphaltum, and lampblack.
1231. Jensen, P. 4187. 1879.
Copying ink. Anilin, soluble metallic salts, neutral coloring medium, and powdered carbon.
1232. Nesbit, A. A. 4204. 1879.
Safety ink. Clay, anilin dye, and volatile liquid added to ordinary printers' ink.
1233. Pumphrey, J. 4409. 1879.
Transfer ink. Anilin and water.

Patents—Great Britain, continued.

1234. Gestetner, D. 4524. 1879.

Transfer ink for documents, also for printing. Anilin base.

*1235. Kessler, C. 4685. 1879.

Printers' black ink. Pitch or asphalt, tar oil, fatty acid, anilin violet, and cart grease.

1236. Imray, J. 4788. 1879.

Transfer ink for gelatin surface. Aqueous solution of metallic salt or a tanning substance to which color is added.

1237. Haddan, H. J. 4997. 1879.

Canceling ink for special paper. Potassium bichromate, copperas, oxalic acid, red prussiate of potash, logwood, and color.

*1238. Wirth, F. 5232. 1879.

Printers' ink. Coal tar, sulphuric acid, calcined soda, fat, and glycerin.

*1239. Shaw, I. B. 690. 1880.

Printers' ink for tiles. Colors ground in varnish with addition of copaiva balsam.

*1240. Pfleiderer, P. 827. 1880.

Printers' ink. Colors, copaiva balsam, turpentine, resin oil, and driers.

*1241. Klein, A. L. 1028. 1880.

Printers' ink. Raw linseed oil and driers boiled to consistency.

1242. Binks, H. B. 1358. 1880.

Copying or transfer ink consisting principally of aluminous solution.

*1243. Alexander, E. P. 1615. 1880.

Printers' ink. Mineral hydrocarbons, caustic potash. Residue used as a pigment.

1244. Emery, J. J. 1759. 1880.

Ink for articles to be enamelled. Color, camphor, and dissolved wax.

1245. Johnson, J. H. 1771. 1880.

Marking ink. Orthonitrophenylpropionic acid, gum water, sodium carbonate, and milk sugar. Heat brings out color on marked article.

1246. Sachs, J. J. 1838. 1880.

Marking ink. Polysulphides of iron, zinc, copper, etc., heated with non-volatile fatty and oily bodies, waste fibers, etc., and alkali.

*1247. Kessler, C. 2216. 1880.

Black printers' ink, especially for canceling postage stamps.

1248. Nawrocki, G. W. 2832. 1880.

Ink for stamping pads. Gelatin, glue, agar-agar, color.

1249. Ungerer, A. 3418. 1880.

Solid ink. Agar-agar (or isinglass), water, glycerin, starch, syrup, and color.

1250. Bertram, L. B. 4591. 1880.

Ink for pads. Anilin, acetic acid, glucose, glue or gelatin, glycerin, and water.

*1251. Bastand, C. T. 4693. 1880.

Printers' ink. Grease from engineers' cleaning waste treated with solvents and distilled.

1252. Edwards, E. 4716. 1880.

Ink for gelatin copying press. Acetic iron and chloride of iron, printing ink, and glycerin.

1253. Ford, A. 5125. 1880.

Ink for writing on special paper.

*1254. Dupré, A., and O. HEHRER.

Invisible printers' ink for checks. Zinc sulphide, lead carbonate or salts of bismuth, glycerin, treacle, and gum arabic.

1255. Poirson, C. 436. 1881.

Transfer ink. Color, salt which melts in water of crystallization, acid, sugar, gum.

1256. Johnson, J. H. 466. 1881.

Marking ink similar to no. 1771 of 1880.

1257. Stoddart, A. F. 741. 1881.

Writing and copying ink from spent tan liquor.

*1258. Gard, W. G., and T. H. COBLEY.
903. 1881.

Printers' ink. Waste pickle from galvanizers' works, and leather cuttings.

1259. Haddan, H. J. 963. 1881.

Copying ink requiring no damping of paper. Syrup, alcohol, water, uranium acetate, and color.

1260. Priestman, T., and others. 1002. 1881.

Ink for boot-blackening compositions, using spent tan liquor.

*1261. Brackebusch, H. 1203. 1881.

Printers' ink. Paraffin oil, colophonum, lamp-black or other pigment, with variations to produce a cheaper ink.

*1262. Bastand, C. T. 2103. 1881.

Printers' ink. Black resin or resin oil, soap, blue color, greasy material.

*1263. Jensen, P. (Void.) 2868. 1881.

J.S.C.I., 1882, v. 1, p. 182.

Printers' ink. Asphalt, anthracene oil, anilin color, lubricating oil.

*1264. Lake, W. R. 2948. 1881.

Copying and printers' ink based on nitrate of uranium.

1265. Meihé, J. R. 3410. 1881.

Fireproof writing ink. Platinum chloride, lavender oil, lampblack, varnish. For printing he uses india ink, water, and gum arabic.

1266. Gurney, H. S. L. 3605. 1881.

J.S.C.I., 1882, v. 1, p. 147.

Writing ink from waste tan liquor and iron filings.

1267. Clark, A. M. 3762. 1881.

Writing ink. Albumen, a bichromate, and ferro-cyanid of potassium.

*1268. Russig, W. 728. 1882.

Indelible printers' ink. Iron salts and metallic iron added to ordinary printers' ink. Also recipe for making writing ink therefrom.

1269. Rath, F. 1391. 1882.

Copying ink. Sodium silicate and a greasy ink.

*1270. Lake, W. R. 1849. 1882.

Printers' ink for fabrics. Pyroxlin, color, and a menstrum.

*1271. Horsfall, A. H. 2220. 1882.

Lithographic ink for fabrics. Color, oil, varnish, and anilin dyes.

1272. Detmold, E. 3083. 1882.

Quick-drying writing ink. Water, spirits, cloves, anilin dye.

*1273. Claus, C. F. 4106. 1882.

Printers' ink. Waste liquors from tin plate or similar works.

Patents — Great Britain, continued.

1274. Langbeck, H. W. 5946. 1882.

Marking ink. Salicylic acid, turpentine, spirits of wine, glycerin, water, albumin, and color.

1275. Hickisson, J., and H. W. LANGBECK. 751. 1883.

Colored marking ink. Gutta percha, india rubber, bisulphide of carbon, and color.

1276. Dufréne, H. A. 859. 1883.

Indelible ink. Water, sodium carbonate, logwood, sugar, anilin black, and soot.

*1277. Clark, A. M. 941. 1883.

Printers' and writing inks. Recipes for black and other colors; for indelible writing ink; for copper plate printing.

1278. Nesbit, A. A. 949. 1883.

Safety ink using extract of anchusine.

*1279. Gard, W. G., and T. H. COBLEY. 2549. 1883.

Printers' ink. Leather waste, sodium carbonate or acetate, or caustic soda and an iron salt.

1280. Appleyard, J. W., and others. 2816. 1883.

Soluble black from spent tan liquors for use in writing ink.

*1281. Bolton, C. E. 3600. 1883.

Copying and printers' ink. Blue galls, iron sulphate, blue vitriol, gum arabic, white ginger, and water.

*1282. Lake, W. R. 3638. 1883.

Ink for printing on rubber fabrics. India rubber, red lead, sulphur, and naphtha.

1283. Rydill, G. 3822. 1883.

Fireproof ink for imitation stained glass. Powdered asbestos, acids, and alum.

1284. Warwick, T. J. 3969. 1883.

Transfer ink for embroidery. Compo-black, beeswax, and white lead.

*1285. Moseley, C. 5207. 1883.

Printers' ink for india rubber. Chloroform, benzol, drying oil or varnish, with color.

1286. Lardeur, G. E. 5287. 1883.

Transfer ink. Resin, gum dammar, color, turpentine.

*1287. Shaw, I. B., and others. 383. 1884.

Printers' transfer ink for signs, etc. Camphor, wax, copaiba balsam, and petroleum.

1288. Chatterton, E. S. 2220. 1884.

Copying ink. Powdered color and glycerin.

1289. Friend, F. 7160. 1884.

Copying ink. Iron liquor, tannic acid, and glycerin.

*1289a. Clark, W. 12385. 1884.

De-inking process.

1290. Haddan, H. J. 12727. 1884.

Transfer ink. Glycerin, dextrin, anilin, and earth color.

1290a. Hickisson, J. 15961. 1884.

J.S.C.I., 1886, v. 5, p. 30.

Mordants or fixers for marking ink and pencils. Pyrogallie acid, borax, hyposulphite of soda, sodium bicarbonate, ammonia, alum, washing soda, gums, chalk, wax, albumin, collodion, varnish.

1291. Armour, L. H. 440. 1885.

J.S.C.I., 1886, v. 5, p. 30.

Writing ink capable of being either fixed or removable. Pigment, gum arabic, gelatin, and bichromate.

*1292. Reid, A., and J. JAMESON. 1380. 1885.

Soluble printers' transfer ink. Gum, glycerin, albumin, treacle, and color.

1293. Friend, F. 1515. 1885.

Stencil ink. Potassium or sodium hydrate, orchil or other color.

*1294. Simpson, D. C. 3980. 1885.

Writing, marking, or printers' ink made indelible in water. Alkalies, cyanides, or ferro-cyanides.

*1295. Winterhof, L. 5929. 1885.

Lithographic transfer ink. Suet, pitch, turpentine, mastic, litho varnish, beeswax, printers' ink, lamp-black, Brunswick black.

1296. Frusher, T. 8241. 1885.

J.S.C.I., 1886, v. 5, p. 427.

Black writing ink from waste dye liquors.

1297. Wass, A. G. 9249. 1885.

Pigment for black ink. Residue from boiling or filtering of saccharine liquids.

*1298. Macrone, W. 9413. 1885.

Printing and lithographic ink. Seed oil, resin, paraffin wax, copal varnish.

1299. Batty, T. 12910. 1885.

Transfer ink. Sulphate of copper or of iron, water, and dye.

1300. Guthiel, R. 1601. 1886.

Soap, wax, mastic, shellac, turpentine, lampblack.

*1301. Clark, A. M. 2878. 1886.

Powdered coloring composition for printers' inks. Resinate of a metal combined with coloring matter.

1302. Payne, W. J. 3179. 1886.

Ink tablet for rubber stamps. Glycerin, gelatin, water, color.

1303. Wise, W. L. 8994. 1886.

Insulating ink for automatic telegraph. Mucilage diluted and colored.

1304. Wass, A. G. 9992. 1886.

Calcined sugar filtrate as a basis.

*1305. Cunliffe, H., and M. CONDON. 15685. 1886.

Printers' ink. Fixing and glazing compound. "Painters' terbene," linseed oil, and varnish.

*1306. Schlumberger, A. 1076. 1887.

Printers' safety ink. Vegetable color which changes color on addition of an alkali.

1307. Lake, H. H. 2123. 1887.

Stencil marking ink. Benzene, naphtha or turpentine, pigment, bronze powder, and kerosene.

*1308. Bertling, L. 5464. 1887.

Lithographic transfer ink. Suet, beeswax, soap, shellac, vegetable black, varnish, sperm oil, and spermaceti.

1309. Himly, M., and others. 6730. 1887.

Sympathetic ink. Magnesium platino-cyanid.

1309a. Tallmadge, J. W. 13500. 1887.

J.S.C.I., 1888, v. 7, p. 34.

Fluid ink eraser. Solution of chloride of lime and acetic acid.

Patents — Great Britain, continued.

1310. Hackney, W. 15079. 1887.

Non-drying and fixing compositions for writing inks. Uses chloride of calcium.

1311. Hickisson, J. 15320. 1887.

Congo and benzo-purpurin and plastic binders moulded into solid marking ink for fabrics.

*1312. Groth, L. A. 17925. 1887.

Printers' and stamping ink. Anilin solutions, bitumen, resins, or fats.

1313. Dimitry, C. P. 648. 1888.

J.S.C.I., 1889, v. 8, p. 43.

Indelible ink, using gelatin or animal glue, bichromate, color, and water.

*1314. Bensinger, A. 3321. 1888.

Ink for printing on celluloid and like pyroxylin compounds. Anilin color, carbohc or acetic acid.

*1315. Phillips, S., and A. STEPHEN.

4823. 1888.

Photo-mechanical transfer ink. Beeswax, spermaceti, tallow, lampblack, and litho ink.

*1316. Armstrong, H. G., and J. E. WALLER.

6796. 1888.

Printers' ink for advertisements on sanitary paper. Addition of disinfectants or medicating materials.

1317. Smith, G. H. 7149. 1888.

Transfer ink for copying documents. Blue-black: green anilin, magenta, hydrochloric acid, water, alcohol. Green: green anilin, water, alcohol, hydrochloric acid.

1318. Quelch, G. H. 7472. 1888.

Ink which causes paper when touched in any part with a red-hot iron to burn a stencil. Uses nitrate of potassium.

*1319. Neilson, G. R., and others.

13968. 1888.

Printers' ink for advertisements on sanitary or toilet paper slips. Uses potassium permanganate dissolved in non-poisonous oil or fluid.

1320. Doyle, D. 14457. 1888.

Marking ink. Gum, spanish brown, and iron sulphate mixed into a powder which is afterwards dissolved in water as required.

1321. Jones, C. S. 15457. 1888.

Sympathetic ink. Salt of cobalt or of nickel dissolved in spirit.

1322. Brasier, E., and J. H. KNOWLES.

2360. 1889.

Coloring extract from *Bauhinia Vahlia*.

1323. Hallam, W. 4513. 1889.

Transfer ink for marking linen. Color, mordant, mixed with wax, resin, or bituminous materials.

*1324. Weight, J. H. 6287. 1889.

Ink for toilet paper. Medicated substance, oils, and gum arabic.

*1325. Mills, E. J. 8971. 1889.

Antiseptic writing and printing inks. Borax, boric acid, and a salicylate added to commercial inks.

1326. Williams, M., and J. ASCOUGH.

9442. 1889.

Soluble blue for writing inks. Boron compound and a dye.

1327. Lucas, D. 9960. 1889.

Ink for pottery transfers. China clay, drop black, rose pink, turpentine, printers' oil, and canada balsam.

*1328. Carter, McI. J. D. 12289. 1889.

Sticky inks for printing designs to be covered by flock. For lithographic work boiled linseed oil is ground with colors. For letterpress, colors are ground with sodium silicate and treacle.

1329. Ashton, R. 14388. 1889.

J.S.C.I., 1890, v. 9, p. 857.

Dry soluble writing ink. Dissolved colors are dried on a carrying medium (such as paper) which is cut into strips.

1330. Pulford, G. C. 15565. 1889.

Safety ink to prevent fraudulent opening of envelopes. Uranium acetate, potassium ferrocyanid, white lead or white zinc.

*1331. Browne, N. 15839. 1889.

J.S.C.I., 1890, v. 9, p. 630.

Printers' and lithographic ink. Maltha and lamp-black.

1332. Wilkinson, C. H. 16982. 1889.

Color standard system resembling diatonic scale.

*1333. Huelser, C. 20830. 1889.

Printers' ink. Coal dust, linseed oil and varnish.

1334. Conrad, W. S., and H. T. LILLEY.

2011. 1890.

J.S.C.I., 1890, v. 9, p. 612.

Copying ink for dry paper. Gall nuts, iron sulphate, magnesium chloride, colors, and glycerin.

1335. Tschofen, F. 2130. 1890.

Invisible ink. Whiting and gum arabic.

1336. Conrad, W. S. 10401. 1890.

J.S.C.I., 1891, v. 10, p. 713.

Copying ink. Ammonium nitrate added to slow drying ink containing glycerin.

1337. Piffard, B. 10905. 1890.

Copying ink. Copying paper is dipped in a solution of gallic, tannic, or pyrogallic acid, and used with ink containing sulphate or other salt of iron.

*1338. Holt, O. G. 11168. 1890.

Printers' ink. Residue from petroleum distillation as a base.

*1339. Davison, W. 15743. 1890.

J.S.C.I., 1891, v. 10, p. 937.

Metallic printers' ink.

*1340. Higgins, C. M. 15857. 1890.

J.S.C.I., 1891, v. 10, p. 252.

Stamping, copying, and printers' ink. Oleic acid and colors.

*1341. Higgins, C. M. 15858. 1890.

J.S.C.I., 1891, v. 10, p. 253.

Stamping, copying, and printing ink. Color dissolved in essential oils of the spices, to which oleic acid may be added.

*1342. Lake, H. H. 16689. 1890.

J.S.C.I., 1891, v. 10, p. 136.

Printers' ink. Vaseline, linseed oil, zinc sulphate, litharge, red lead, and binoxide of manganese, and pigments.

1343. Just, T. W., and others. 16757. 1890.

J.S.C.I., 1891, v. 10, p. 541.

Safety writing ink. Carbon, gum arabic, caustic soda, oxalic acid, india ink, vanadium, aleppo galls, anilin dyes, water.

Patents — Great Britain, continued.

1344. Beales, H. 17373. 1890.

J.S.C.I., 1892, v. 11, p. 45.

Copying ink. Nutgalls, logwood, water, iron sulphate, gum arabic, cloves, vegetable black, and glycerin.

*1345. Haddon, F. D., and C. R. HILL.

873. 1891.

Printers' ink for toilet paper. Based on permanganate of potassium or eucalyptus oil.

1346. Leech, F. L., and A. HORROBON.

1616. 1891.

J.S.C.I., 1892, v. 11, p. 446.

Indestructible ink. Turpentine, asphalt, resin, alum, beeswax.

1347. Coën, E. 3247. 1891.

J.S.C.I., 1892, v. 11, p. 446.

Copying ink. Sugar and glycerin mixed with ordinary ink.

1348. Sherwood, W. 5437. 1891.

J.S.C.I., 1892, v. 11, p. 346.

Copying machine ink. Dissolved anilin colors mixed with linseed oil or other drier.

*1349. De Brandt, F. 12104. 1891.

Lithographic transfer ink. Antimony black, bone black, resin, varnish, berlin blue, and ordinary printers' ink.

*1350. Bertling, L. 12200. 1891.

Lithographic transfer ink. Suet, beeswax, curd soap, shellac, vegetable black, litho varnish, and spermaceti.

*1351. Dreyfus, C. 17635. 1891.

Printers' ink. Lakes soluble in benzol, naphtha, etc.

*1352. Higgins, C. M. 93. 1892.

J.S.C.I., 1892, v. 11, p. 362.

Printers' and stamping ink. Color, carbolic acid, castor oil, essential oil.

*1353. Jefferson, F. T. 3103. 1892.

Ink for ruling and printing on copying paper. Pigment and a volatile liquid such as methylated spirit, and an adhesive.

*1354. Kohn, J., and S. STRAUSS.

3364. 1892.

Printers' ink for playing cards or celluloid. Colors ground with waterproof medium.

*1355. Hagelberg, W. 4167. 1892.

Printers' ink for celluloid. Uses a celluloid solvent, such as amyl acetate.

*1356. Friswell, R. J., and F. H. LEEDS.

18721. 1892.

J.S.C.I., 1893, v. 12, p. 824.

Printers' copying ink. Lampblack or other suitable pigment with boiling aqueous solution of anilin dye, dried, and ground with litho varnish.

1357. Hickisson, J. 5316. 1893.

Marking ink. Anilin dyes, oil, mordant, india rubber solution.

1358. Blancan, C. 7236. 1893.

Aluminium ink.

*1359. Bibby, J., and J. BIBBY. 12863. 1893.

J.S.C.I., 1894, v. 13, p. 145.

Printers' ink. Cotton seed foots as a basis.

*1360. Hollyer, E. 16380. 1893.

Toilet paper printers' ink. Pilewort juice, thyme, groundsel, elder leaves, oil varnish.

*1361. Cox, H. W. C., and R. J. CROWLEY. 1542. 1894.

Facsimile telegraphic ink. Tin or lead, sulphuric acid, nitric acid, color.

*1362. Kuwert, W. 2093. 1894.

Ink for celluloid labels. Alcohol, silver nitrate, nigrosin.

1363. Nienstaedt, E., and L. GOLDMARK.

3236. 1894.

J.S.C.I., 1894, v. 13, p. 511.

Solid ink. Quartz powder immersed in ordinary ink and dried.

1364. Nienstaedt, E., and others.

5078. 1894.

Preparation of ink sticks.

*1365. Degroote, F. A., and A. A. D. DES

AULNOIS. 6268. 1894.

Printers' ink for paper impregnated with dextrin. Color, linseed oil, rubber solution, and gums.

*1366. Cordeaux, W. 13676. 1894.

Printers' copying ink. Printers' ink and vaselin.

*1367. Barnwell, F. 20423. 1894.

For printing in several colors at one impression. Ordinary ink mixed with castor oil, turpentine, glycerin, oil of tar, copaiba balsam, ether, chloroform.

*1368. Sharp, S. H. 21607. 1894.

Ink for printing textiles. Litho varnish, gold size, and a metallic powder.

1369. Scott, J. 23694. 1894.

Transfer ink. Metal dust, wax, resin.

*1370. Priestley, G., and E. SWANN.

955. 1895.

J.S.C.I., 1895, v. 14, p. 373.

Printers' ink for leather. Lard, margarine, powdered metal, size, and linseed oil or varnish.

*1371. Thacker, H. 6938. 1895.

Printers' ink for paper, wood, metals, etc. Undesired ink surfaces removed by color discharging fluid.

1372. Hallett, A. 17868. 1895.

Ink for typewriter imitations. Color, black molasses, glucose, glycerin.

1373. Adams, E. J. 3459. 1896.

Invisible ink. Sulphuric acid and water.

*1374. Grundy, G. H., and G. A. LINGARD.

4093. 1896.

Printers' ink for fired tiles.

*1375. Taylor, F. C., and J. COOKE.

8376. 1896.

Printers' ink. Colored printers' inks are mixed with copaiba balsam, glycerin, sandal wood, oil, petroleum, balsam fir, etc.

*1376. Sharp, S. H. 16274. 1896.

Printers' ink for stenciling on fabrics. Bronze or aluminium powder with suitable menstrum.

1377. Temple, E. H. 17226. 1896.

Writing ink. Salt water, logwood, galls, gum arabic, iron sulphate. Stains are easily removed from fabrics.

*1378. Michel - Dansac, J. A., and L.

CHASSAGNE. 18131. 1896.

Photographic color pigments adapted for use as printers' inks. Several recipes.

Patents — Great Britain, continued.

1379. Webb, R. 26992. 1896.
J.S.C.I., 1897, v. 16, p. 1012.
Safety ink. Flour, magnesium oxide, soap, carbonate of sodium, color.
- *1380. Boulton, A. J. 30121. 1896.
J.S.C.I., 1898, v. 17, p. 55.
Bronze printers' inks. Fixed oil base.
- *1381. Rataud, P. 1228. 1897.
Printers' transfer ink. Linseed oil, suet, and printers' ink.
1382. Billings, R. W. 7376. 1897.
Stencil ink. Dextrin, glue, oil, and metal or colored powder.
- *1383. Gentile, E. O. S., and H. R. GENTILE. 7399. 1897.
J.S.C.I., 1897, v. 16, p. 546.
Printers' ink. Wood powder, wood pulp, or cellulose, impregnated with color.
- *1384. Taylor, F. C. 9121. 1897.
Printers' ink. Powdered manganese and alcohol added to ink described in British patent no. 8375 of 1896.
1385. Potter, A. L. 11013. 1897.
Ink for branding, for wool bales, etc. Glue, gelatine or size, water, potassium bichromate, lamp-black, and turpentine.
- 1385a. Lyle, J. N. 12281. 1897.
J.S.C.I., 1898, v. 17, p. 455.
Ink stain remover. Citric acid, water, bleaching powder.
- *1386. Ogilvy, D. J. 18533. 1897.
J.S.C.I., 1897, v. 16, p. 1012.
Printers' ink. Process of using super-heated steam.
- *1387. Webb, R. 19783. 1897.
J.S.C.I., 1897, v. 16, p. 1012.
Safety printers' ink. Dextrin, treacle, glycerin, anilin dye.
1388. Lake, H. H. 21830. 1897.
Effervescent ink tablets. Anilin or nigrosin, gum arabic, sodium bicarbonate, and tartaric acid.
1389. Moeller, J. 21991. 1897.
J.S.C.I., 1898, v. 17, p. 148.
Indelible sympathetic ink. Alum, garlic juice.
- *1390. Hadley, W. S., and others. 23080. 1897.
Printers' ink for etched plates on wax paper. Beeswax, pitch, and colors.
- *1391. Stoop, A. 24504. 1897.
Printers' ink. Grisee oil obtained in Java.
1392. Cox, F., and others. 24560. 1897.
Preparation of writing ink so that ink is not formed until writing fluid is on the paper. Paper impregnated with solution of tannin. Ink is a solution of iron sulphate.
- *1393. Banner, S. 29728. 1897.
J.S.C.I., 1898, v. 17, p. 1158.
Printers' ink. Solution of colophony treated with caustic soda or potash and used as a substitute for linseed oil.
- *1394. Burger, H. J. 30104. 1897.
Ink for photographic reproductions.
- *1395. Izambard, G. 5294. 1898.
Ink for X-ray printing. For handwriting uses white lead and gum; for typewriter, white lead and linseed oil.
- *1396. Simultaneous Color Printing Syndicate, and H. DE MONTIN. 10153. 1898.
Ink for polychromatic blocks. Waxes, oils, and colors.
- *1397. Gotliffe, H. 11951. 1898.
Printers' lustrous ink for waterproofed fabrics. Nickel dust and resin.
- *1398. Pitt, S. 20356. 1898.
Printers' ink. Gelatinous thickening material from seaweed.
- *1399. Stoop, A. 23071. 1898.
J.S.C.I., 1899, v. 18, p. 379.
Printers' ink. Natural purified oil from Grisee, Java, distilled and mixed with color.
1400. Lichtentag, I., and A. LICHTENTAG. 24644. 1898.
J.S.C.I., 1899, v. 18, p. 680.
Indelible writing ink. Carbon, soap, and water.
1401. Kretschmann, E. 6727. 1899.
Sympathetic ink. Paper is treated with solution of haloid salt of cobalt, glycerin, and gum arabic. Writing is done with a solution of rock salt.
- *1402. Bachem, P. F. 8976. 1899.
Sympathetic printers' ink based on cobalt salts.
- *1403. Hay, L. 11592. 1899.
Antiseptic ink for toilet paper. Recipes for blue and red.
1404. Power, C. F. 14957. 1899.
Quick-drying writing inks. Recipes for black and red.
- *1405. Printing Arts Co., and I. ORLOFF. 17557. 1899.
Printers' ink. Colors in a gum resin solution.
- *1406. Hoz, A. 22296. 1899.
Printers' ink for textiles and paper. Linseed oil base and mordants.
- *1407. Izambard, G. 1290. 1900.
Inks for X-ray work contain metallic powders more or less opaque to rays.
1408. Brown, E. W. 3807. 1900.
J.S.C.I., 1901, v. 20, p. 272.
Typewriter copying ink for prepared paper. Emulsion of tannin, iron sulphate, deliquescent salt and glycerin, or with a non-drying oil.
1409. Kretschmann, E. 7367. 1900.
Sympathetic ink. Cobalt salt.
- *1410. Butler, T. T. 12945. 1900.
Printers' ink for paper hangings, giving crêpe effect.
- *1411. White, W. G., and R. A. A. WHITE. 13145. 1900.
J.S.C.I., 1901, v. 20, p. 714.
Printers' ink for polychromatic blocks. Stearic acid, vegetable wax, linseed oil, resin, soda, fullers' earth, and colors.
- *1412. Ogilvy, D. J. 14886. 1900.
J.S.C.I., 1900, v. 19, p. 1011.
Process of heating printers' inks.

Patents — Great Britain, continued.

*1413. Hofer, H., and H. HOFER.

17126. 1900.

Ink for celluloid transparencies. Camphor, paraffin, "manganiso-linolate."

*1414. Stevenson, J. 17783. 1900.

J.S.C.I., 1901, v. 20, p. 1208.

Printers' ink that changes color with time. Mixture of permanent and non-permanent colors.

1414a. Raynes, A. 21063. 1900.

J.S.C.I., 1901, v. 20, p. 1108.

Marking ink for textiles, using anilin black.

*1415. British Oil and Cake Mills, and A. G.

WASS. 23231. 1900.

J.S.C.I., 1901, v. 20, p. 1005.

Printers' ink. Mucilage from cotton-seed oil, acid tar sludge, resin, and carbon.

1416. Langhans, R. 430. 1901.

J.S.C.I., 1902, v. 21, p. 123.

Ink for electric telegraph. Compounds of precious metals or their halogen salts, sulphur derivatives of aliphatic carbon compounds, and a solvent. Paper passed through hot rollers gives a metallic impression.

*1417. Hoz, A. 1366. 1901.

J.S.C.I., 1901, v. 20, p. 985.

Printing colors for chemical printing on stuffs. Thickening substance and dyes, with or without mordants. After printing, the colors are steamed, developed and fixed.

1418. Lucas, R. D. 3100. 1901.

Ink for china, glass, etc. Turpentine, rose pink, drop black, china clay, printers' oil, resin, and flux if necessary.

*1419. Imray, O. 5168. 1901.

J.S.C.I., 1901, v. 20, p. 803.

Printers' and writing inks. Indo-phenol-thio-sulphates.

*1420. Wass, A. G. 6061. 1901.

J.S.C.I., 1902, v. 21, p. 1032.

Printers' ink varnish. Resin dissolved in mineral oil, color.

*1421. Van Dyke, F. R. 6307. 1901.

Ink for photozincography. Litho ink and bitumen; or transfer ink and Burgundy pitch, thinned with turpentine.

*1422. Tellkampf, A. 8645. 1901.

Ink for transferring photographic copies to stone or metal plates. Turpentine, black japan, alcoholic iron varnish, fats, and oils or waxes.

*1423. Brandel, F. de., and A. DE BAUDRY

D'ASSON. 8923. 1901.

J.S.C.I., 1902, v. 21, p. 782.

Manufacture of colors from heavy mineral oils.

*1424. Lake, H. H. 12826. 1901.

J.S.C.I., 1902, v. 21, p. 782.

Lithographic and printers' ink. Color, glycerin, alkali, and volatile resin oil.

*1425. Lilienfeld, L. 23892. 1901.

J.S.C.I., 1902, v. 21, p. 771.

Vehicles for pigments in textile printing. (1) Metallic salts of fatty acids, or resins, insoluble in water. (2) Organic-acid radical derivatives of albumin. (3) India rubber or gutta percha.

*1426. Weise, M., and others.

25705. 1901.

Printers' ink for make-ready. Addition of resin or soft soap to ordinary ink.

*1427. Schmitz, J. S. 6698. 1902.

Printers' ink for wall paper or woven fabrics.

*1428. Schmeidel, F. R. 8371. 1902.

J.S.C.I., 1902, v. 21, p. 969.

Printers' ink. Dark shade on colored ground. Resin or gum with volatile solvent.

1429. Geary, E. 15193. 1902.

Copying ink requiring neither moisture nor press. Galls, iron sulphate, anilin blue, glycerin, essence of cloves, water.

*1430. Jamieson, W. A., and others.

20413. 1902.

Wall paper printers' ink. Color, gum tragacanth.

1431. Brown, T. H., and J. E. STAPLES.

21241. 1902.

Branding fluid for carcasses, poultry, and eggs. Mitigated caustic, logwood, water, methylated spirits.

*1432. Meth, B. Z. 24610. 1902.

J.S.C.I., 1903, v. 22, p. 1131.

Printing transfers for etching glass. Ammonium fluoride, hydrofluoric acid, magnesia alba, water, dextrin, anilin black.

1433. Stewart, W. 24719. 1902.

Copying ink using neither press nor dampener. Galls, iron sulphate, gum arabic, water, creosote, glycerin, potassium permanganate.

1434. Ninnis, T. M. 3033. 1903.

Ink for ground glass. Canada balsam, gum, resin, turpentine.

*1435. Grabau, E. F. W. U. 3301. 1903.

J.S.C.I., 1903, v. 22, p. 739.

Waterproof ink for wall paper. Starch, borax, water, color, glycerin, alcohol, and caustic soda.

1436. Cook, H. W., and J. PLUNKETT.

5610. 1903.

Preparation of raw ox-gall for ruling ink.

*1437. Préaubert, L., and G. A. THUBÉ.

11028. 1903.

J.S.C.I., 1904, v. 23, p. 448.

Thickener for printers' ink. Casein base.

*1438. Johnson, J. Y. 12681. 1903.

J.S.C.I., 1904, v. 23, p. 485.

Printers' ink. Compounds of coloring matter bases with fatty acids or their alkaline salts.

1439. Braun, H. 14299. 1903.

Conducting ink for autographic or facsimile telegraphy. Acid solution of platinum, copper, etc., combined with graphite.

*1440. Lilienfeld, L. 14483. 1903.

J.S.C.I., 1903, v. 22, p. 1345.

Ink for glossy silk-like effects. Finely powdered mica and cellulose solution.

1441. Carter, M. J. D. 22195. 1903.

Ink for backing typewriter sheet to prevent absorption of wax of stencil sheet. Glycerin added to ordinary printers' ink.

1442. Rosenhain, W. 26951. 1903.

J.S.C.I., 1904, v. 23, p. 1904.

Non-corrosive writing ink for glass and metal. Silicate of sodium or potassium, aluminate of potassium or sodium, and color.

Patents—Great Britain, continued.

*1443. Marzin, R. 1933. 1904.

J.S.C.I., 1905, v. 24, p. 91.

Printing paste for ceramic ware. Colors, aloe extract, syrup, glycerin, and alkaline carbonate.

1444. Rowan, J. 3909. 1904.

J.S.C.I., 1904, v. 21, p. 453.

Safety ink. Specially prepared paper overprinted with ink of iron perchlorate, potassium iodide, and a caustic alkali.

1445. Smith, F. P., and G. F. BESWICK.

4447. 1904.

Copying ink. Logwood, gall, iron perchloride, glycerin, rose water.

*1446. Millar, G. G. 7391. 1904.

Colored lithographic ink. Linseed oil, wax, and anilin dye.

1447. Leisel, M., and R. KÜPPER.

17624. 1904.

J.S.C.I., 1905, v. 24, p. 893.

Writing and drawing ink. Metallic dust, flux, and a liquid neutral organic substance that does not evaporate until the metal or flux is melted.

1448. Bennett, J. F., and J. MASTIN.

21062. 1904.

J.S.C.I., 1905, v. 24, p. 978.

Pigment of finely divided colored glass, porcelain, or other vitreous substance.

*1449. Bennett, J. F., and J. MASTIN.

24733. 1904.

J.S.C.I., 1905, v. 24, p. 978.

Printers' ink. Potters' clay and color are fired and powdered and used as pigment.

1450. Flack, A. M. 25092. 1904.

J.S.C.I., 1905, v. 24, p. 1301.

Fountain pen ink. Carbon, linseed oil, turpentine, and prussian blue if desired.

*1451. Janzer, C. 25202. 1904.

Rapid drying printers' ink to prevent "set off." Addition of pyroxyline, turpentine, castor oil, alcohol, and ether.

1452. Coterillo y Ojeda, F., and J. QUESADA.

29245. 1904.

Copying ink. Glycerin and syrup added to ordinary ink.

*1453. Frankenstein, L., and others.

9809. 1905.

J.S.C.I., 1906, v. 25, p. 372.

Rubber solution and color for printing fabrics.

*1454. Lamb, M. C., and J. D. G. RENNIE.

11049. 1905.

J.S.C.I., 1906, v. 25, p. 636.

Ink for printing on leather. Leather dyes in water, alcohol, benzine, or other hydrocarbon.

*1455. Hart, J. J. 12128. 1905.

J.S.C.I., 1906, v. 25, p. 691.

Ink for polychromatic printing. Dye, solvent, fusers' earth, china clay, etc.

*1456. Serck, P. O. 14023. 1905.

Ink for color printing to prevent running or mixing of colors. Balsam, glycerin, myrrh, sandal wood oil, petroleum, turpentine, alcohol, and black oxide of manganese.

*1457. Lischke, F. A. 14464. 1905.

Ink for printing overlay sheets. Lake color, transparent white, drier, vegetable glue, and varnish.

*1458. Lamb, M. C., and J. D. G. RENNIE.

17338. 1905.

J.S.C.I., 1906, v. 25, p. 17.

Printers' transfer ink for leather. Addition of petroleum jelly to fat colors used in leather printing.

*1459. Thorpe, J. F., and BRIGGS & Co.

17793. 1905.

J.S.C.I., 1907, v. 26, p. 16.

Indelible ink for fabrics. "Indigo salt T" used as basis.

*1460. Longley, W. 19328. 1905.

J.S.C.I., 1906, v. 25, p. 845.

Printers' ink. Color and gelatinous substance prepared from carrageen or similar sea-weed.

*1461. British Agin Co., and others.

25537. 1905.

Printers' ink from double metallic alginates.

*1462. Fireman, P. 25859. 1905.

J.S.C.I., 1907, v. 26, p. 57.

Preparation of ferro-ferric oxides for printers' inks.

*1463. Ippers, J. W. 26965. 1905.

Ink for photo-mechanical printing. Asphalt, resin, beeswax, mastic, tallow, crayon ink.

1464. Morris, E. R., and others.

1732. 1906.

J.S.C.I., 1907, v. 26, p. 58.

Ink for dry copying. Iron perchloride.

*1465. Lerman, D., and others. 3107. 1906.

J.S.C.I., 1906, v. 25, p. 806.

Printers' ink pigments from coal.

1466. Boulton, A. J. 5050. 1906.

Ink for wood. Water, chinese ink, gum arabic, acetic acid.

1467. Wyse, H. T. 12872. 1906.

J.S.C.I., 1907, v. 26, p. 821.

Sympathetic ink using cobalt salts.

*1468. Ippers, J. W. 15026. 1906.

Lithographic transfer ink. Resin, asphalt, mastic, beeswax, tallow, crayon ink.

*1469. Imray, O. 18562. 1906.

J.S.C.I., 1907, v. 26, p. 526.

Gelatin colors for printing from intaglio oiled forms.

*1470. Lilienfeld, L. 2998. 1907.

J.S.C.I., 1908, v. 27, p. 279.

Ink for producing silk-like effects on paper and textiles. Compounds of viscose with zinc or metals of the magnesium group. See patent no. 14483 of 1903.

1471. Simpson, D. C. 4379. 1907.

Lange, v. 3, p. 221.

Waterproof writing ink. Gum, water, ammonia, black color, dextrin, nigrosin.

1472. Acheson, E. G. 27312. 1907.

J.S.C.I., 1908, v. 27, p. 940.

Deflocculated amorphous substances with oil and varnish.

Patents — Great Britain, continued.

- *1473. Briggs, W. 6702. 1908.
Quick-drying multicolor ink using shellac.
- *1474. Bezzant, S., and R. BEZZANT.
8688. 1908.
J.S.C.I., 1908, v. 27, p. 1029.
Treatment of raw ox-gall for ruling machine ink.
1475. Garzino, L. 9108. 1908.
J.S.C.I., 1908, v. 27, p. 895.
Sympathetic ink which can be press-copied, effaced by a rubber, and then developed. Alkaline solution of yellow prussiate of potash, magnesium carbonate, and graphite. Developer consists of iron, alum, and a mordant of bisulphate of potash.
- 1475a. Claesen, C. 9579. 1908.
J.S.C.I., 1909, v. 28, p. 363.
Hectographic inks using polyglycerins.
- *1476. Binko, H. B., and N. MAYER.
14126. 1908.
Printers' ink. Blue paste obtained by dissolving indigo in sulphuric acid and adding common salt, dextrin and gum.
- *1477. Levy, A. 15339. 1908.
Fireproof and waterproof printers' ink based on magnesite.
- *1478. Holweg, C. 16517. 1908.
Printers' ink. Anilin color dissolved in alcohol.
1479. Elam, E. W. 19588. 1908.
Copying ink. Anilin black, nigrosin, glucose, glycerin, water, potassium hydroxide.
1480. Loevinsohn, E. 22420. 1908.
Ink for transfer papers. Fusible colors, binding materials, and mineral oil.
1481. Soc. Weiluc et Cie. 26469. 1908.
Transfer ink for decorating walls. Non-transparent color, linseed oil, fish glue, castor oil, collodion, india rubber solution, etc.
1482. Mansell, W. F., and W. H. MANSELL.
27233. 1908.
Sensitizing ink for stenciling. Water, silver salt, alcohol, and glycerin.
1483. Lucas, E. G. H. 27957. 1908.
Ink for swelled gelatin process. Linseed oil, beeswax, turpentine, and colors.
- *1484. Walker, F. H., and C. E. SOHN.
2114. 1909.
Oil residuums, crude oils, etc., treated with strong sulphuric acid. Printers' ink by addition of lamp-black or other pigment.
- *1485. Jagenburg, F. G. 4040. 1909.
J.S.C.I., 1910, v. 29, p. 364.
Printers' ink. Color in soap solution is mixed with thickener (china clay, baryta, etc.).
- *1485a. Child, R. C., and J. JOHNSTON.
8532. 1909.
J.S.C.I., 1910, v. 29, p. 288.
Printing inks based on powdered coal.
- *1485b. Hopkins, M. S., and C. R. BARNETT.
13679. 1909.
J.S.C.I., 1910, v. 29, p. 640.
Recovery of ingredients of oily inks.
- *1486. Lilienfeld, L. 15306. 1909.
Printers' ink based on viscose.
1487. Hochstetter, R. 16291. 1909.
J.S.C.I., 1909, v. 28, p. 1211.
Mimeograph ink. Pigment ground in sulphonated oil. Base of barium sulphate or of china clay.
1488. Lamp'l, R., and P. J. LAMP'L.
16636. 1909.
Safety inks, using benzoflavine and chrome alum.
- *1489. Beckmann, F. 20025. 1909.
J.S.C.I., 1910, v. 29, p. 1029.
Adhesives for use in printers' inks for wall papers. Gum arabic, gum tragacanth, flour, dextrin, bittern.
1490. Kasseker, J. 23852. 1909.
J.S.C.I., 1910, v. 29, p. 278; C. A., 1910, v. 4, p. 3289.
Ceramic transfer ink. Linseed oil, lead compound. No flux is required.
1491. Escardo, I. S., and J. B. B. SALA.
27268. 1909.
Safety ink. Invisible impression rendered visible by rubbing with metal. Zinc white and colorless litho varnish.
- *1492. Sureties, C. 29379. 1909.
J.S.C.I., 1911, v. 30, p. 147.
Printers' ink base of yeast.
1493. Newton, P. A. 29460. 1909.
J.S.C.I., 1911, v. 30, p. 141.
Decalcomania ink. Alkali salts of acids obtained by the saponification of oils, fats, waxes, or resins are used for binders.
- *1494. Child, R. C. 7722. 1910.
J.S.C.I., 1911, v. 30, p. 1023.
Printers' ink. Tar and pitch, powdered shale or anthracite.
- 1494a. Cameron, D. 16515. 1910.
J.S.C.I., 1911, v. 30, p. 908.
Copying writing ink. Copy paper contains tannic or gallic acid.
1495. Laza, E. 17886. 1910.
Marking ink for bread wafers which are baked on the bread. Inoffensive color treated with gum solution, saccharin materials, or vegetable juice.
1496. Lorenz, H. W. F. 19156. 1910.
Safety inks containing ingredients sensitive to chemicals usually used for removing writing ink. Several recipes.
1497. Simpson, R. 22237. 1910.
Safety ink. Anilin, glycerin, and ordinary printers' ink.
1498. Flachaire, C. P. 24136. 1910.
Sympathetic ink for advertising. Double iodide of mercury and silver.
1499. Pictet, R. P. 24256. 1910.
J.S.C.I., 1911, v. 30, p. 1044.
Process of producing soot.
1500. Rueter, A. 29389. 1910.
J.S.C.I., 1911, v. 30, p. 1072.
Quick-drying writing ink. Ordinary ink and a neutral volatile substance such as spirits of wine.
1501. Pickstone, J. W. 29735. 1910.
Ink for hand stamps. Anilin dye, dextrin, glycerin.
- *1502. Wechsler, S. 2912. 1911.
Printers' ink for fabrics. Color, glycerin, varnish, and a mixture named "hygrol."

Patents — Great Britain, continued.

1503. Flachaire, C. P. 7318. 1911.

Sympathetic inks. Double iodide of mercury and silver.

*1504. Lilienfeld, L. 14142. 1911.

J.S.C.I., 1912, v. 31, p. 680.

Preparation of poly-fatty acids for printers' inks.

1505. Hurwitz & Co. 17772. 1911.

Copying ink and apparatus for applying. Uses ammoniacal ink and a plate covered with a grape sugar solution.

*1506. Lucas, E. G. H. 18965. 1911.

Ink for photo-mechanical surfaces. Amendment to his specification no. 27957 of 1908.

*1507. Wass, A. 914. 1912.

J.S.C.I., 1913, v. 32, p. 613.

Printers' ink. Mineral oil soot, driers, and agglutinant.

1507a. Badische Anilin und Soda Fabrik.

7892. 1912.

J.S.C.I., 1913, v. 32, p. 226.

Chromium compounds of hydroxyanthraquinone sulphonic acids for use in inks.

*1508. Albert, K., and L. BEREND.

13586. 1912.

J.S.C.I., 1913, v. 32, p. 766.

Printers' ink base. Emulsification of asphalts, hydrocarbons, etc., with concentrated neutralized sulphite cellulose lye.

*1509. Lauthe, O., and C. LAUTHE.

14578. 1912.

Ink for etched plates. Lithographic ink, asphalt, colophony, drop mastic, paraffin, spermaceti, stearine, soap, turpentine.

1510. Thompson, W. P. 16570. 1912.

Ink for carbon papers. Hydrocarbon boiling above 200° C., linseed oil varnish, berlin blue, varnish, milori blue, and indigo.

*1511. Wolff, M. 30037. 1912.

J.S.C.I., 1913, v. 32, p. 1162; C. A., 1914, v. 8, p. 2072; Cent., 1914, Jahrg. 85, Teil 1, p. 722.

Drained peat or other fibrous vegetable material treated with alkali and used as basis for printers' ink.

*1512. Ransford, R. B. 714. 1913.

J.S.C.I., 1914, v. 33, p. 74.

Printers' ink for textiles based on phenol and formaldehyde.

1513. Turkin, N. W. 5737. 1913.

J.S.C.I., 1914, v. 33, p. 742.

Pigments based on turkey red oil and an alkali.

*1514. Heyl, G. E., and T. T. BAKER.

10055. 1913.

J.S.C.I., 1914, v. 33, p. 604; C. A., 1914, v. 8, p. 3507.

Drier for printers' ink. Sodium amyl sulphate.

*1515. Schuetze, L., and R. FISCHER.

12567. 1913.

J.S.C.I., 1913, v. 32, p. 1007; C. A., 1914, v. 8, p. 3722.

Printers' ink for engraved surfaces. Color, emulsion of albumin in alkaline solution, sulphonated oil or salt thereof.

1516. Pindikowsky, A. 13723. 1913.

Stencil ink. Color and cornflower paste.

*1517. Sureties, H. 14245. 1913.

J. S.C.I., 1914, v. 33, p. 798.

Printers' ink based on peat.

*1518. Turkin, N. W. 23128-23129. 1913.

J.S.C.I., 1914, v. 33, p. 747, 757.

Printing colors. See specification no. 5737 of 1913.

*1519. Quick, A. S. 547. 1914.

Residue from spent lyes for printers' inks.

*1520. Lilienfeld, L. 3370. 1914.

Carbohydrate ethers for printers' inks.

*1521. Wolff, M. 4419. 1914.

J.S.C.I., 1915, v. 34, p. 145.

Printers' ink. Ingredients are mixed cold and without intercedent drying.

*1522. Farbwerke, vorm. Meister, Lucius, & Brüning. 5011. 1914.

J.S.C.I., 1914, v. 33, p. 829.

Printers' ink for fabrics. Reduction dyes and varnish.

1523. Travers, S. 5363. 1915.

Ink for lantern slides. Dissolved gum and color

*1524. Justice, P. M. 7284. 1915.

Printers' ink for fabrics. Water-soluble phenol-formaldehyde condensation products.

*1525. Lipsius, S. 10089. 1915.

Printing in imitation of embossed work. Fusible gum deposited on freshly printed characters.

*1526. Stevenson, J. 104429. 1917.

J.S.C.I., 1917, v. 38, p. 463.

Printers' ink for stencil duplication. Calcium chloride, gum, lampblack or other inert color.

1527. Singer, L. 109270. 1917.

Treating acid resins from oil purification.

*1528. Soc. Anon. la Photogravure Rotative, and Soc. THENARD SIMON ET CIE. 111279. 1917.

Ink for intaglio printing.

1529. Akashi, K. 114601. 1918.

J.S.C.I., 1918, v. 38, p. 313a.

Solid ink. Dye, dextrin, gum tragacanth, thymol, lactic acid.

*1530. Jager, G. C., and R. W. CARL.

116109. 1918.

J.S.C.I., 1918, v. 37, p. 464a.

Printers' ink for rotary presses. Based on hexamethylenetetramine, or other substance yielding formaldehyde.

*1531. Hope, J. 117023. 1918.

J.S.C.I., 1918, v. 37, p. 554a.

Use of sulphur colors in printers' ink.

1532. Shinozaki, M. 117117. 1918.

J.S.C.I., 1918, v. 37, p. 554a.

Indelible writing ink. Lampblack, alkali, soluble indulin.

1533. Schmidt, E. E. 130319. 1919.

Safety writing ink. Colloidal solution of prussian blue, oxalic acid, epsom salts, turkey red oil.

Patents — Great Britain, continued.

*1534. Duke, J. F. 131769. 1919.

J.S.C.I., 1919, v. 38, p. 834a.

Printers' ink. Carbohydrate, tannic or other acid, and iron salt.

1535. Tsutsumi, M. 141631. 1920.

J.S.C.I., 1920, v. 39, p. 459a.

Solid writing ink. Logwood, galls, potassium ferrous tartrate, color, sodium salicylate, antiseptic, and gum arabic.

1536. Allison, C. A. 146676. 1920.

J.S.C.I., 1920, v. 39, p. 602a.

Non-corrosive ink. Borax and dextrin.

*1537. Nelson, R. N. 148650. 1920.

Printers' ink for textiles. Addition to lithographic ink of terebine and gold size.

*1538. Lilienfeld, L. 149319. 1920.

J.S.C.I., 1922, v. 41, p. 95a.

Thickener for printers' ink. Carbohydrates of formula $C_6H_{10}O_5$ mixed with oily liquids obtained when acetylene reacts with aluminium chloride.

*1539. Serafin, G. 149373. 1920.

Lithographic ink.

1540. Oleson, J. C. 152465. 1920.

Ink rod. Water soluble anilin dye, graphite or kaolin, and a binder.

*1541. Chemische Fabriken Worms. Akt. Ges. 156212. 1921.

J.S.C.I., 1921, v. 40, p. 520a.

Substitution of lactate solutions for glycerin in stamping and printing inks.

*1542. Fitzgerald, F. C. 159809. 1921.

Lithographic ink avoiding necessity of damping stone. Adds grease resisting materials.

*1543. Hinely, T. H. 161700. 1921.

Printers' ink for knotted goods. Colors, litho varnish, tallow, stearine, and paraffin wax.

*1544. Ruetgerswerke Akt. Ges. 166117. 1921.

J.S.C.I., 1922, v. 41, p. 559a.

Printers' black ink with basis of tar oil derived from wood, peat, straw, cotton, or other fibrous material.

*1545. Parry, R. H. 169917. 1921.

J.S.C.I., 1921, v. 40, p. 858a.

Ruling inks and bookbinders' colors. Evaporation of ox-gall and a salt.

*1546. Lilienfeld, L. 171661. 1921.

J.S.C.I., 1922, v. 41, p. 53a.

Coumaron resins for printers' inks. See specification no. 163271.

1547. Schiffmann, J. 172588. 1921.

J.S.C.I., 1922, v. 41, p. 66a.

Stamping pad ink. Tannate or gallate (or both) of iron, acetin, color.

*1548. Aurich, E., and F. WOLF. 176599. 1922.

Lithographic ink for producing a light color on a dark ground, using rapid-drying grease resisting ink.

*1549. Monberg, J. 177515. 1922.

Resist ink used in producing simultaneously a number of plates similar to an original. Addition of wax, glycerin, and india ink to printing ink.

*1550. Lilienfeld, L. 181393, 181395. 1922.

J.S.C.I., 1923, v. 42, p. 1126a.

Printers' ink based on alkyl ethers of cellulose.

*1551. De Waele, A. 183513. 1922.

J.S.C.I., 1922, v. 41, p. 771a.

Printers' ink based on emulsion in form of plastic solid, of which the yield value is greater than the emulsion of the components.

1552. Plausons, Ltd. 184880. 1922.

J.S.C.I., 1922, v. 41, p. 815a.

Colloidal inks based on refined clay.

*1553. Smidt, K. J., and R. JAEGER. 187537. 1922.

J.S.C.I., 1922, v. 41, p. 989a.

Printers' ink from waste sulphite-cellulose lyes, nitric acid, and a catalyst.

1554. Plausons, Ltd. 187732. 1922.

J.S.C.I., 1922, v. 41, p. 989a.

Colloidal inks based on clay.

*1555. Marr, R. A. 189271. 1922.

J.S.C.I., 1923, v. 42, p. 51a.

Reclaiming printed paper.

1556. Naamlooze Vennootschap Philips Gloelampenfabriken. 189763. 1922.

Ink for transparent markings on frosted glass.

1557. Bretton, J. H. M. 190232. 1922.

J.S.C.I., 1923, v. 42, p. 151a.

Marking ink. Based on juice of *Semecarpus anacardium*.

FRANCE

The Library has specifications, 1902 - date. The abstracts published 1791-1900 are in some cases title entries only.

1558. Cellier. 177. 1805.

Des., série 1, tome 3, p. 97.

Indelible writing ink. Galls, nitrate of iron, gum arabic, animal carbon.

*1559. Stone, and others. 553. 1808.

Des., série 1, tome 7, p. 197.

Printers' ink for ceramics, ivory, etc. Carbonate of manganese, carbonate of copper, and Swedish cobalt.

*1560. Legros d'Anizy. 875. 1808.

Des., série 1, tome 10, p. 121.

Lithographic ink. Carbonates of manganese and copper, and Swedish cobalt.

1561. Mery. 619. 1814.

Des., série 1, tome 8, p. 75.

Ink for terra cotta.

Patents — France, continued.

- *1562. Seib. 1095. 1820.
Des., série 1, tome 12, p. 90.
Lithographic ink for textile printing. Wax, shellac, narsix, soap, lampblack.
1563. Dumoulin, S. 1883. 1821.
Des., série 1, tome 21, p. 286.
Acid-and-alkali proof ink. Subcarbonate of soda, resin, wax, glue, hydrochloric acid.
1564. Delunel. 3273. 1821.
Des., série 1, tome 33, p. 319.
Indelible writing ink. Glue, starch, hydrochloric acid, soap, lampblack, licorice extract, chloride of lime.
1565. Minet. 1355. 1822.
Des., série 1, tome 14, p. 352.
Dry and liquid acid resisting ink. Brazil wood, galls, sulphate of iron, gum arabic, vinegar, alum, carbon.
- *1566. Bergounioux, A. A. H. 3872. 1823.
Des., série 1, tome 38, p. 418.
Printers' ink, using black from schist, etc.
1567. Hunt, H. 2464. 1828.
Des., série 1, tome 27, p. 144.
Writing ink. Galls, campeche, gum arabic, copperas, blue vitriol, sugar, ammonia, alcohol, water.
1568. Dizé, M. J. J. 2655. 1829.
Des., série 1, tome 28, p. 290.
Safety writing ink. Printers' ink, subcarbonate of soda, water, lacquer, glue.
1569. Fesneau-Petibeu. 3950. 1832.
Des., série 1, tome 39, p. 260.
Indelible writing ink. Galls, water, india-wood, gum arabic, sulphate of iron, essence of lavender, sugar, alum, lampblack.
- *1570. Mozard, P. 3953. 1834.
Des., série 1, tome 39, p. 265.
Printers' ink in colors. Linseed oil, resin, silver chromate.
1571. Perry, J. 4316. 1834.
Des., série 1, tome 41, p. 380.
Concentrated non-corrosive drawing and copying ink. Galls, iron sulphate, india-wood, sugar, gum arabic, indigo, hydro-chlorate of ammonia, essence of lavender, essence of lemon, acetic acid, cyanide of potassium.
1572. Guillier, J. 9701. 1834.
Des., série 1, tome 69, p. 491.
Indelible marking ink. Silver nitrate, water, gum arabic, sub-carbonate of soda, ammonia.
1573. Elia, N. V. M. 4170. 1836.
Des., série 1, tome 40, p. 434.
Blue-black writing ink. Indigo, sulphuric acid, hydrosulphuric acid, water.
- *1574. Bazin, F. C. 4813. 1837.
Des., série 1, tome 44, p. 179.
Printers' ink for leather and parchment. Several recipes.
1575. Miles-Berry. 10982. 1837.
Des., série 1, tome 79, p. 286.
Writing ink. Oxalic acid, prussian blue, water.
1576. Dunand, M. 6118. 1838.
Des., série 1, tome 51, p. 127.
Indelible marking ink. Silver nitrate, gum arabic, water, lampblack.
- *1577. Niboyet, E. 9396. 1838.
Des., série 1, tome 68, p. 104.
Printers' ink using green soap instead of usual siccatives.
1578. Dufay, A. E. 5858. 1840.
Des., série 1, tome 49, p. 386.
Safety writing paper impregnated with sulphate of iron and gall.
1579. Prudon, B. 5889. 1840.
Des., série 1, tome 49, p. 449.
Imitation of india ink. Mixes black with gelatin.
1580. Bagatta, J. 6299. 1840.
Des., série 1, tome 52, p. 144.
Indelible writing ink. Water, lampblack, caustic potash, oak bark, galls, madder, campeche, sugar, iron sulphate, gum arabic, indigo sulphate.
- *1581. Pernel, L. C. 6448. 1840.
Des., série 1, tome 52, p. 517.
Printers' ink for leather. Linseed oil, galipot, sandarac.
1582. Bezanger, J. J. M. 10124. 1840.
Des., série 1, tome 72, p. 182.
Indelible writing ink. Carbon, glue, caustic soda, gum.
1583. Bowy de Pregny, H. 6685. 1841.
Des., série 1, tome 54, p. 95.
Writing copying ink. Galls, campeche, marshmallow root, iron sulphate, copper sulphate, gum arabic, sugar.
- *1584. Goyneau, C. J. M. A. 6845. 1842.
Des., série 1, tome 54, p. 410.
Printers' ink. Linseed oil, rosin, molasses, litharge, carbon.
- *1585. Wagner, P. 8663. 1842.
Des., série 1, tome 64, p. 134.
Lithographic ink for waxed surfaces or leather. Linseed oil, turpentine, carbonate of lead.
- *1586. Knecht, and ZUBER. 12199. 1842.
Des., série 1, tome 90, p. 106.
Ink for lithographic and metal surfaces. Yellow wax, tallow, gum, colophane, pitch, and varnish.
1587. Levrault, J. 9485. 1843.
Des., série 1, tome 68, p. 444.
Indelible writing ink. Carbon, indigo, glue, ammonia, hydrochloric acid.
1588. Hély, A. A. 8096. 1844.
Des., série 1, tome 61, p. 127.
Metallic writing ink. Gum arabic, water, gum ammoniac, metal powder.
- *1589. Boudon de Saint-Amans. 11448. 1844.
Des., série 1, tome 83, p. 18.
Printers' ink for ceramics.
1590. Thabuy, and DUFEU. 879. 1845.
Des., série 2, tome 4, p. 199.
Indelible writing ink. Linseed oil, bitumen, turpentine, carbon or color.

Patents — France, continued.

1591. **Roseleur**, and **LANAUX**. 1618. 1846.
Des., série 2, tome 6, p. 193.
Indelible writing ink. Linseed oil, bitumen, carbonate of potash, turpentine.
1592. **Faucher**. 3422. 1847.
Des., série 2, tome 12, p. 316.
Writing ink. Galls, gum arabic, alum, sugar, green copperas, vitriol.
1593. **Guillier**. 4125. 1849.
Des., série 2, tome 15, p. 7.
Violet writing ink. Chloride of gold, water, tin salt, gum arabic.
1594. **Simon**. 4484. 1849.
Des., série 2, tome 16, p. 36.
Ink tablets. Iron salt, galls, copper salt, gum arabic, sugar, alum.
1595. **Kopczynski**. 5414. 1850.
Des., série 2, tome 18, p. 329.
Safety writing ink. Specifications not given.
1596. **Houtret**. 6188. 1851.
Des., série 2, tome 20, p. 318.
Indelible writing ink. Gum, borax, indigo, prussian blue, carbon, water.
1597. **Trouble**. 6557. 1852.
Des., série 2, tome 21, p. 314.
Stamping ink based on oleic acid.
- *1598. **Lefevre**. 6779. 1852.
Des., série 2, tome 22, p. 275.
Printers' ink for leather. Uses vinegar and albumin.
1599. **Haas**. 6842. 1852.
Des., série 2, tome 22, p. 310.
Liquid india ink. Alum, fish glue, black color, alcohol.
- *1600. **Sapène-Gays**. 7864. 1853.
Des., série 2, tome 25, p. 362.
Printers' ink for glass. Lithographic varnish, alcohol, pine resin.
1601. **Fourmentin**. 7883. 1853.
Des., série 2, tome 25, p. 385.
Indelible writing ink based on chromium oxide.
1602. **Armange**. 9597. 1853.
Des., série 2, tome 32, p. 5.
Employs juice of the *Karak-kailou* for black writing fluid.
1603. **Poncelet**. 9716. 1854.
Des., série 2, tome 32, p. 314.
Non-corrosive writing ink. India-wood, galls, chromate of potassium, catechu.
1604. **Romégon**. 9798. 1854.
Des., série 2, tome 32, p. 4000.
Non-corrosive writing ink. Campeche, water, bichromate of calcium (or other bichromates).
1605. **Larenaudière**. 11156. 1854.
Des., série 2, tome 38, p. 310.
Copying writing ink. Campeche, water, alum, copper sulphate.
1606. **Jublin**. 12191. 1855.
Des., série 2, tome 42, p. 318.
Colorless writing ink that turns blue on prepared paper. Water, proto-chloride of iron, phosphoric acid, hydrochloric acid, nitrate of iron.
1607. **Ballande**, J. A. H. 12197. 1855.
Des., série 2, tome 42, p. 319.
Colorless writing ink that becomes colored on prepared paper. Iodide, water, gum, gallic acid, pyrogallie acid, acetic acid, ferro-cyanid of potassium, alkaline sulphides.
- *1608. **Gillet**, and **TABOURIN**. 12678. 1855.
Des., série 2, tome 44, p. 305.
Printers' ink based on henna.
- *1609. **Chaffée**. 12883. 1855.
Des., série 2, tome 45, p. 267.
Printers' ink using rubber solution.
- *1610. **Boutry**. 14125. 1855.
Des., série 2, tome 50, p. 321.
Ceramic printers' ink.
- *1611. **Defay**. 14842. 1856.
Des., série 2, tome 53, p. 157.
Printers' ink based on albumin.
1612. **Leonhardi**, A. 15123. 1856.
Des., série 2, tome 54, p. 97; Ding., 1856, Jahrg. 142, p. 141; Poly. Cent., 1856, Jahrg. 22, p. 1472.
Alizarin writing ink. Galls, madder, indigo, iron sulphate, pyroacetate (or pyrolygnate) of iron, water.
1613. **Rapp**. 15936. 1856.
Des., série 2, tome 56, p. 6.
Writing ink extract and powder. Campeche, potassium chromate, water. For powder, campeche, iron sulphate, sugar, and creosote.
1614. **Brun**. 16672. 1856.
Des., série 2, tome 57, p. 319.
Writing ink based on acetic acid.
- *1615. **Underwood**, J., and **F. V. BURT**. 16680. 1856.
Des., série 2, tome 57, p. 326.
Printers' copying ink. Galls, iron sulphate, gum, molasses, soap, carbon, prussian blue, water.
1616. **Kessler**. 17038. 1856.
Des., série 2, tome 58, p. 393.
Ceramic ink.
- *1617. **Seropyan**. 18528. 1857.
Des., série 2, tome 62, p. 246.
Safety printers' ink. Alkali, iron sulphate, gallic acid, linseed oil.
1618. **Belmondi**. 21283. 1858.
Des., série 2, tome 68, p. 377.
Non-corrosive writing ink. Carbonate of potassium, nitrate of potassium, carbonate of lead, carbonate of manganese, water.
- *1619. **Lemaire**. 21386. 1858.
Des., série 2, tome 69, p. 27.
Printers' ink with aluminium base.
1620. **Ballande**, J. A. H. 22346. 1859.
Des., série 2, tome 70, p. 264.
White writing ink that becomes black on prepared paper.

Patents — France, continued.

- 1621. Jolicoeur.** 23167. 1859.
Des., série 2, tome 72, p. 23.
Indelible marking ink. Linseed oil, caoutchouc, carbon, turpentine.
- 1622. Melville.** 25506. 1860.
Des., série 2, tome 75, p. 296.
Indelible marking ink. Gum, soap, alum, bitumen, vegetable black.
- *1623. Lambert.** 26352. 1860.
Des., série 2, tome 77, p. 332.
De-inking process.
- 1624. Magneval.** 49596. 1861.
Des., série 2, tome 81, cl. 18, pt. 2, p. 2.
Solid ink.
- 1625. Paviet-Germanoz.** 49754. 1861.
Des., série 2, tome 81, cl. 14, pt. 3, p. 7.
Indelible marking ink using neutral tartrate of silver.
- 1626. Croc, L.** 51016. 1861.
Des., série 2, tome 81, cl. 14, pt. 2, p. 8.
Anilin writing ink. Anilin violet, red anilin or fuchsine, anilin blue, chinese ink, gluten, acetic acid.
- *1627. Tessié du Motay, and MARÉCHAL.** 51759. 1861.
Des., série 2, tome 81, Arts industriels, pt. 2, p. 10.
Printers' ink for glass.
- 1628. Ancelle.** 52529. 1862.
Des., série 2, tome 83, cl. 14, pt. 2, p. 1.
Red writing copy ink. Cochineal, water, carbonate of soda, alum, ammonia, gum, sugar.
- 1629. Croc, L.** 52878. 1862.
Des., série 2, tome 84, cl. 12, pt. 4, p. 35;
Wag. Jahr., 1862, Jahrg. 8, p. 606.
Morse telegraph ink. Title entry only.
- 1630. Sigur, and CREMER.** 52927. 1862.
Des., série 2, tome 83, cl. 17, pt. 1, p. 12.
Decalcomania ink.
- 1631. Nadaud.** 52984. 1862.
Des., série 2, tome 83, cl. 14, pt. 2, p. 1.
Red or violet writing ink based on fuchsine and anilin.
- *1632. Maréchal, and TESSIÉ DU MOTAY.** 53103. 1862.
Des., série 2, tome 82, Ceramique, pt. 3, p. 3.
Printers' ink for ceramics and glass.
- 1633. Bazen, and DELENTE.** 59600. 1863.
Des., série 2, tome 85, cl. 14, pt. 3, p. 23.
Hygienic ink. Title entry only.
- *1634. Hunt.** 61151. 1863.
Des., série 2, tome 86, cl. 17, pt. 2, p. 27.
Safety printers' ink based on peroxide of tin and oxide of chromium.
- *1635. Hulot.** 66609. 1865.
Des., série 2, tome 94, cl. 17, pt. 2, p. 31.
Printers' ink. Title entry only.
- *1636. Rowley.** 67383. 1865.
Des., série 2, tome 93, cl. 14, pt. 3, p. 25.
Printers' ink. Title entry only.
- 1637. Rozé.** 68040. 1865.
Des., série 2, tome 93, cl. 14, pt. 3, p. 26.
Writing ink. Title entry only.
- 1638. Ellis.** 70626. 1866.
Des., série 2, v. 97, cl. 14, pt. 3, p. 14.
Silicious compounds for colors. Title entry only.
- 1639. Roy.** 70964. 1866.
Des., série 2, v. 97, cl. 14, pt. 3, p. 15.
Writing ink. Title entry only.
- 1640. Varin.** 72912. 1866.
Des., série 2, tome 97, cl. 14, pt. 3, p. 16.
Graphite copying ink (writing). Title entry only.
- *1641. Rave.** 73664. 1866.
Des., série 2, tome 98, cl. 17, pt. 2, p. 13.
Belgian printers' ink. Title entry only.
- *1642. Ollion.** 73701. 1866.
Des., série 2, tome 98, Arts industriels, pt. 2, p. 12.
Engraving ink using bichromate of potassium and an acid.
- 1643. Roy.** 80612. 1868.
Des., série 2, tome 105, cl. 14, pt. 2, p. 4.
Writing ink. Title entry only.
- 1644. Huot.** 84696. 1869.
Des., série 2, tome 109, cl. 14, pt. 2, p. 1.
Manufacture of lampblack.
- 1645. Cooke.** 85050. 1869.
Des., série 2, tome 109, cl. 14, pt. 2, p. 9.
Writing copying ink. Title entry only.
- *1646. Muller.** 86613. 1869.
Des., série 2, tome 109, cl. 14, pt. 2, p. 10.
Copper plate and printers' ink. Title entry only.
- *1647. Kircher, J., and E. EBNER.** 86725. 1869.
Des., série 2, tome 109, cl. 14, pt. 3, p. 23.
Erasible printing ink. Title entry only.
- 1648. Mendes.** 86731. 1869.
Des., série 2, tome 109, cl. 14, pt. 3, p. 23.
Sympathetic ink. Title entry only.
- 1649. Dutilh.** 88248. 1869.
Des., série 2, tome 112, cl. 4, pt. 2, p. 34.
Cleaning ink-stains with chlorine. Title entry only.
- 1650. Delidon.** 93824. 1872.
Des., série 3, tome 3, Papeterie, pt. 2, p. 2;
Ber., 1873, Bd. 6, p. 156; Bull. Soc. Chim., 1873, v. 19, p. 141.
Writing copying ink. Black ink, gall (or color), copper sulphate, campeche, water, molasses, alcohol, gum arabic.
- 1651. Mante.** 97067. 1872.
Des., série 3, tome 4, Arts industriels, pt. 2, p. 35.
Autographic ink. Chinese ink, bichromate of potash (or of ammonia), gum or gelatin.

Patents — France, continued.

- *1652. **Nathieu** (dit Plessy). 99427. 1873.
Des., série 3, tome 6, Arts chimiques, pt. 2, p. 4.

Writing and printing ink. Organic color in solution and addition of substance which favors carbonization by heat.

1653. **Puttemans**. 99628. 1873.
Des., série 3, tome 6, Arts chimiques, pt. 2, p. 8.
Indelible ink. Title entry only.

- *1654. **Persoz, J., and L. JEANNOLLE**. 101019. 1873.

Des., série 3, tome 6, Arts chimiques, pt. 2, p. 7.
Printers' ink. Resin liquid, carbon, prussian blue, glycerin.

1655. **Pinkney, R.** 102050. 1874.
Des., série 3, tome 13, Arts textiles, pt. 2, p. 12.
Anilin writing ink.

1656. **Souvignet**. 102244. 1874.
Des., série 3, tome 10, Arts chimiques, pt. 3, p. 32.
Erasing ink spots with sodium chlorate. Title entry only.

- *1657. **Roman**. 102341. 1874.
Des., série 3, tome 10, Arts chimiques, pt. 3, p. 5.
Printers' delible ink using glycerin.

1658. **Richoux, and GONTHIER-DREYFUS**. 102836. 1874.
Des., série 3, tome 10, Arts chimiques pt. 3, p. 32.
Writing ink. Title entry only.

1659. **McIlvaine, C. M.** 102901. 1874.
Des., série 3, tome 10, Arts chimiques, cl. 3, p. 32.
Writing ink. Title entry only.

1660. **Gaffard**. 103352. 1874.
Des., série 3, tome 10, Arts chimiques, pt. 3, p. 32.
No indication of character of ink. Title entry only.

1661. **Cré**. 103376. 1874.
Des., série 3, tome 10, Arts chimiques, pt. 3, p. 32.
No indication of character of ink. Title entry only.

1662. **Ballande, J. A. H.** 104329. 1874.
Des., série 3, tome 10, Arts chimiques, pt. 3, p. 18.
White writing ink for special paper. Iodide of potassium and gum.

- *1663. **Platel**. 104614. 1874.
Des., série 3, tome 11, Arts industriels, pt. 2, p. 35.
Black printers' ink. Tannin, glycerin, essence of thyme, gum, glucose, iron salts.

1664. **Metra**. 105174. 1874.
Des., série 3, tome 10, Arts chimiques, pt. 2, p. 7.
Pink and red writing inks using saffranine.

1665. **Delidon**. 105290. 1874.
Des., série 3, tome 10, Arts chimiques, pt. 3, p. 33.
No indication of character of ink. Title entry only.

1666. **Gaudin**. 106052. 1874.
Des., série 3, tome 10, Arts chimiques, pt. 3, p. 31.
Safety writing ink. Carbon, gelatinous tannate, prussian blue.

- 1666a. **Lothar de Faber**. 106181. 1874.
Des., série 3, tome 10, Papeterie, pt. 2, p. 12; Wag. Jahr., 1875, Jahrg. 21, p. 996.
Copying pencils. Anilin, graphite, and kaolin.

- *1667. **Billet, and MICHEL**. 106362. 1875.
Des., série 3, tome 14, Arts chimiques, pt. 3, p. 3.
Substitution of vinasse for molasses in manufacture of printers' ink.

1668. **Devillers**. 107133. 1875.
Des., série 3, tome 14, Arts chimiques, pt. 2, p. 1.
Paste composition. Water, campeche, alum, anilin.

1669. **Gaudin**. 107267. 1875.
Des., série 3, tome 17, Arts textiles, pt. 2, p. 56.
Indelible marking ink. Title entry only.

1670. **Grawitz, W. J. S.** 108460. 1875.
Des., série 3, tome 14, Arts chimiques, pt. 3, p. 10; Wag. Jahr., 1876, Jahrg. 22, p. 1065; Bull. Soc. chim., 1876, v. 26, p. 425.
Powdered ink from silicates and aluminates.

1671. **Messemer**. 110848. 1875.
Des., série 3, tome 14, Arts chimiques, pt. 3, p. 20.
Concentrated ink. Title entry only.

1672. **Zuccato, E. de**. 113564. 1876.
Des., série 3, tome 19, Arts industriels, pt. 2, p. 60.
Copying writing ink and apparatus. Caustic liquid, anilin, glycerin.

1673. **Denis**. 115818. 1876.
Des., série 3, tome 18, Arts chimiques, pt. 4, p. 67.
Compound for removing ink stains. Title entry only.

1674. **Escoffier**. 117156. 1877.
Des., série 3, tome 22, Arts chimiques, pt. 3, p. 22.
Copying ink. Title entry only.

1675. **Brachet**. 120736. 1877.
Des., série 3, tome 22, Arts chimiques, pt. 3, p. 23.
Ink powder. Title entry only.

1676. **Fargue**. 121433. 1877.
Des., série 3, tome 22, Papeterie, pt. 2, p. 21.
Safety writing ink. Title entry only.

Patents—France, continued.

- 1677. Zuccato, E. de.** 121744. 1877.
Des., série 3, tome 22, *Papeterie*, pt. 2, p. 22.
Copying ink. Title entry only.
- 1678. Devillers.** 124450. 1878.
Des., série 3, tome 26, *Arts chimiques*, pt. 3, p. 9, with certificate of addition (title only) in série 3, tome 30, *Arts chimiques*, pt. 2, p. 9.
Concentrated ink using campeche and chromium.
- 1679. Richmond.** 125522. 1878.
Des., série 3, tome 26, *Arts chimiques*, pt. 3, p. 20.
Indelible writing ink. Title entry only.
- 1680. Garnier.** 126159. 1878.
Des., série 3, tome 26, *Arts chimiques*, pt. 3, p. 21.
Writing ink. Title entry only.
- 1681. Kwaysser, and HUSAK.** 127373. 1878.
Des., série 3, tome 26, *Papeterie*, pt. 2, p. 21.
Writing copying ink using anilin and alcohol.
- 1682. Fargue.** 127461. 1878.
Des., série 3, tome 26, *Papeterie*, pt. 2, p. 31.
Writing ink grains. Title entry only.
- *1683. Gunther.** 133676. 1879.
Des., série 3, tome 35, *Arts industriels*, pt. 2, p. 51.
Black printing ink. Title entry only.
- *1684. Wilhelm, J. J., and F. ROHNSTADT.** 134281. 1879.
Des., série 3, tome 30, *Arts chimiques*, pt. 2, p. 9.
Printers' ink. Title entry only.
- 1685. Bouilhon, and GUASCO.** 135211. 1880.
Des., série 3, tome 34, *Papeterie*, pt. 2, p. 33.
Ink pencil. Title entry only.
- 1686. Lacroix, and BELLER.** 136203. 1880.
Des., série 3, tome 34, *Arts chimiques*, pt. 2, p. 9.
Ink powder. Title entry only.
- *1687. Teilliet.** 138069. 1880.
Des., série 3, tome 35, *Arts industriels*, pt. 2, p. 52; série 3, tome 39, *Arts industriels*, pt. 2, p. 54; série 3, tome 43, *Arts industriels*, pt. 2, p. 42.
Lithographic ink. Title entry only.
- 1688. Gallice.** 138204. 1880.
Des., série 3, tome 34, *Papeterie*, pt. 2, p. 34.
Solid ink. Title entry only.
- 1689. Magne, J. J.** 138392. 1880.
Des., série 3, tome 35, *Arts industriels*, pt. 2, p. 16.
Drawing and writing ink. Title entry only.
- 1690. Gruenwald, L.** 141567. 1881.
Des., série 3, tome 35, *Arts industriels*, pt. 2, p. 16.
Copying writing ink. Title entry only.
- *1691. Brackebusch, H.** 141802. 1881.
Des., série 3, tome 35, *Arts industriels*, pt. 2, p. 16.
Printers' ink. Title entry only.
- 1691a. Savy.** 143829. 1881.
Des., série 3, tome 41, pt. 1, *Arts textiles*, pt. 2, p. 25; J.S.C.I., 1882, v. 1, p. 182.
Ink for stamping tissues before dyeing. Linseed oil, massicot, asphalt, gum copal, vermilion.
- 1692. Devillers.** 144336. 1881.
Des., série 3, tome 35, *Arts industriels*, pt. 2, p. 17.
Black writing ink. Title entry only.
- 1693. Piallat.** 146679. 1882.
Des., série 3, *Arts chimiques*, pt. 2, p. 16.
Black indelible writing ink. Title entry only.
- *1694. Schmidt.** 149876. 1882.
Des., série 3, tome 42, *Arts chimiques*, pt. 2, p. 18.
Printers' and stamping ink. Title entry only.
- 1695. Boyeux, and GEOFFRAY.** 149943. 1882.
Des., série 3, tome 42, *Arts chimiques*, pt. 2, p. 16.
Hygienic ink. Title entry only.
- 1696. Delaye et Cie.** 150996. 1882.
Des., série 3, tome 42, *Arts chimiques*, pt. 2, p. 16.
Copying writing ink. Title entry only.
- 1697. Meyer.** 153104. 1883.
Des., série 3, tome 46, *Arts chimiques*, pt. 2, p. 8.
Incombustible ink. Title entry only.
- 1698. Fonseca et Cie.** 153685. 1883.
Des., série 3, tome 46, *Arts chimiques*, pt. 2, p. 8.
Indelible ink. Title entry only.
- *1699. Nesbit, A. A.** 153913. 1883.
Des., série 3, tome 46, *Arts chimiques*, pt. 2, p. 8.
Printers' ink for checks and postage stamps. Title entry only.
- *1700. Gard, W. G., and T. H. COBLEY.** 158738. 1883.
Des., série 3, tome 46, *Arts chimiques*, pt. 2, p. 9.
Black printers' ink. Title entry only.
- *1701. Guillaume.** 165137. 1884.
Des., série 3, tome 51, *Arts industriels*, pt. 2, p. 35.
Printers' and lithographic ink. Title entry only.
- 1702. Dagron et Cie.** 166145. 1884.
Des., série 3, tome 50, *Arts chimiques*, pt. 2, p. 15.
Writing ink. Title entry only.

Patents—France, continued.

- *1703. **Collin**, and **ERRANI**. 178391. 1886.
Des., série 3, tome 58, Arts chimiques, pt. 2, p. 7.
Printers' ink. Title entry only.
- *1704. **Lancelot**. 180969. 1887.
Des., série 3, tome 62, Arts chimiques, pt. 2, p. 29.
Printers' ink. Title entry only.
1705. **Pouchot**. 187146. 1887.
Des., série 3, tome 62, Arts chimiques, pt. 2, p. 30.
Non-corrosive writing ink. Title entry only.
- *1706. **Stanchfield**, G. M. 187482. 1887.
Des., série 3, tome 62, Arts chimiques, pt. 2, p. 30.
Reducer for printers' ink. Title entry only.
- *1707. **Mourlot**. 196815. 1889.
Des., série 3, tome 70, Arts chimiques, pt. 2, p. 50.
Printers' ink. Title entry only.
- *1708. **Macé**, and **PEREZ**. 197370. 1889.
Des., série 3, tome 70, Arts chimiques, pt. 2, p. 50.
Printers' ink. Title entry only.
1709. **Dimitry**, C. P. 199114. 1889.
Des., série 3, tome 70, Arts chimiques, pt. 2, p. 51.
Indelible writing ink. Title entry only.
- *1710. **Holt**. 201070. 1889.
Des., série 3, tome 70, Arts chimiques, pt. 2, p. 51.
Printers' inks. Title entry only.
- *1711. **Callmann**. 202664. 1889.
Des., série 3, tome 70, Arts chimiques, pt. 2, p. 52.
Printers' black ink. Title entry only.
1712. **Muller**. 205645. 1890.
Des., série 3, tome 74, Arts chimiques, pt. 2, p. 67.
Ink paste. Title entry only.
1713. **Boyeux**, and **CANTON**. 206717. 1890.
Des., série 3, tome 74, Arts chimiques, pt. 2, p. 67.
Incombustible ink. Title entry only.
1714. **Coën**, E. 206996. 1890.
Des., série 3, tome 74, Arts chimiques, pt. 2, p. 67.
Copying writing ink. Title entry only.
- *1715. **Higgins**, C. M. 208687-88. 1890.
Des., série 3, tome 74, Arts chimiques, pt. 2, p. 68.
Printers' ink. Title entry only.
- *1716. **Higgins**, C. M. 218495. 1892.
Des., série 3, tome 82, Arts chimiques, pt. 2, p. 81.
Printers' ink. Title entry only.
- *1717. **Bibby**, J., and J. **BIBBY**.
231670. 1893.
Des., série 3, tome 86, Arts chimiques, pt. 2, p. 103.
Printers' ink. Title entry only.
- *1718. **Tognola**, and **GUNTHER**.
249250. 1895.
Des., série 3, tome 94, Arts chimiques, pt. 2, p. 96.
Printers' and lithographic ink. Title entry only.
1719. **Testud de Beauregard**. 258935. 1896.
Des., série 3, tome 98, Arts chimiques, pt. 2, p. 68.
Sympathetic ink. Title entry only.
- 1719a. **Anquetil**. 269793. 1897.
Library lacks specification. See Rev. chim. indus., 1898, tome 9, p. 31.
Copying writing ink. Anilin color, water, glycerin, and alum.
- 1719b. **Lichtentag**, I. 283244. 1898.
Library lacks specification. See Rev. chim. indus., 1899, tome 10, p. 118.
Method of mixing lampblack with soap.
- 1719c. **Grawitz**, W. J. S. 276397. 1898.
Mon. sc. B., 1899, série 4, v. 13, p. 15.
Marking inks. Anilin base.
1720. **Morin**. 304982. 1900.
Library lacks specification. See Rev. chim. indus., 1901, tome 12, p. 90.
Ink tablets.
1721. **Bounot**. 311189. 1901.
Library lacks specification. See Rev. chim. indus., 1901, tome 12, p. 361.
Quick drying and copying ink. To black writing ink adds syrup, common salt, camphor, and alcohol.
- *1722. **Wechsler**, S. 312052. 1901.
Library lacks specification.
Lithographic ink.
- *1723. **Plat**. 316633. 1901.
Library lacks specification. See Rev. chim. indus., 1902, tome 13, p. 152; Mon. sc. B., 1903, série 4, tome 17, p. 54.
Printers' transfer ink. Printers' ink, bitumen, antiseptic, lard.
- *1723a. **Wass**, A. G. 322298. 1902.
J.S.C.I., 1903, v. 22, p. 307.
Varnish for letterpress or lithographic printing. Resin, petroleum, and colors.
- *1723b. **Préaubert**, L., and G. A. **THUBÉ**.
331805. 1903.
J.S.C.I., 1904, v. 23, p. 448.
Adhesive material used as thickener for printers' ink. Casein base.
- *1724. **Meixell**, W. B., and T. **HOLT**.
337980. 1903.
De-inking process using soda, margoric acid, oleic acid, and water.
1725. **Morand**, A. 341141. 1904.
Mon. sc. B., 1905, série 4, tome 19, p. 180.
Copying writing ink using glycerin added to ordinary ink.

Patents—France, continued.

*1726. Tariel. 344730. 1904.

Safety printing ink. Recipe not given.

1727. Williams, W. S. 353097. 1905.

Indelible fountain pen ink. Carbon, prussian blue, oil, turpentine.

1728. Coterillo y Ojeda, F., and R. J.

QUESADA. 355141. 1905.

Mon. sc. B., 1907, série 4, tome 21, p. 44; 1906, tome 20, p. 122; C. A., 1907, v. 1, p. 509, 1644.

Writing copying ink. Ink powder, sugar, glycerin, and water. Writing ink may be used instead of powder.

*1728a. Hart, J. J. 356153. 1905.

J.S.C.I., 1906, v. 25, p. 17.

Ink for polychromatic printing. Dye, solvent, fuller's earth or clay.

*1729. Fireman, P. 357912. 1905.

Rev. chim. indus., 1906, tome 17, p. 90; Mon. sc. B., 1906, série 4, tome 20, p. 127; J.S.C.I., 1906, v. 25, p. 129, 585; C. A., 1907, v. 1, p. 666.

Ferro-ferric oxide for black printers' ink.

1730. Morris, E. R., and others.

369021. 1906.

Mon. sc. B., 1908, série 4, tome 22, p. 97; J.S.C.I., 1907, v. 26, p. 58.

Copying writing ink. Perchloride of iron, campeche, indigo, carmine, methyl violet, water, and thickener. Also recipe for special paper.

*1731. Schoenach, R. 385615. 1907.

Mon. sc. B., 1909, série 4, tome 23, p. 25.

Bronze printers' ink. Bronze powder, Japan varnish, amyl acetate, acetin.

1731a. Garzino, L. 389660. 1908.

Copying ink (sympathetic). See English patent 9108, 1908.

*1732. Herz, L. 397576. 1908.

J.S.C.I., 1909, v. 28, p. 811.

De-inking process.

1733. Bernard, J. I., and B. KAUFMANN.

397855. 1908.

Mon. sc. B., 1911, série 5, tome 1, p. 20; C. A., 1911, v. 5, p. 2434.

Indelible writing ink. Water, ammonia, gum lac, anilin black, alcohol.

*1734. Manche, A., and others.

397923. 1908.

J.S.C.I., 1909, v. 28, p. 895; Mon. sc. B., 1912, série 5, v. 2, p. 174.

Lithographic and autographic ink. Water, anilin violet, fuchsin, ammonia, wax, resin, olein.

*1735. Jagenburg, F. G. 399604. 1909.

Mon. sc. B., 1911, série 5, tome 1, p. 22; Chemisch-technisches Repertorium, 1909, Jahrg. 33, p. 487; J.S.C.I., 1909, v. 28, p. 992; C. A., 1911, v. 5, p. 218, 2438.

Colored printers' ink. Aqueous solution of color emulsified with oils and resins.

*1736. Hopkins, M. S., and C. R. BARNETT.
404456. 1909.

J.S.C.I., 1910, v. 29, p. 166.

De-inking process.

1736a. Henkel & Co. 409697. 1910.

Mon. sc. B., 1911, série 5, v. 1-2, p. 155.

De-inking process.

1737. Hochstetter, R. 405048. 1909.

J.S.C.I., 1910, v. 29, p. 223.

Mimeograph ink using sulphonated oil, and organic color in glycerin.

1738. Rueter, A. 410635. 1909.

J.S.C.I., 1910, v. 29, p. 831; 1911, v. 30, p. 1072; C. A., 1911, v. 5, p. 3923.

Quick-drying writing ink. Addition of alcohol to ordinary writing ink.

1739. Montet, V. C. F. 414128. 1910.

Decalcomania ink.

*1740. Child, R. C., and J. JOHNSTON.

414179. 1910.

J.S.C.I., 1910, v. 29, p. 1215.

Lithographic and printers' ink. Gets finely divided material by subjecting schist, or similar substances, to current of air.

*1741. Child, R. C. 429449. 1911.

J.S.C.I., 1911, v. 30, p. 1223.

Printers' black ink based on tar.

*1742. Winestock, O. C., and others.

432744. 1911.

J.S.C.I., 1912, v. 31, p. 123.

De-inking process.

1743. Booth, D. 440947. 1912.

Mon. sc. B., 1913, série 5, v. 3, p. 200.

Writing copying ink. Anilin, gum, sugar, glycerin, water, acetic acid.

*1744. Schimek, J. 446095. 1912.

J.S.C.I., 1913, v. 32, p. 133.

De-inking process.

*1745. Société Lefranc et Cie.

448616. 1911.

Mon. sc. B., 1914, série 5, tome 4, p. 45; J.S.C.I., 1913, v. 32, p. 421.

De-inking process.

*1745a. Lesne, H., and M. LAFIERRE.

451452. 1913.

Lange, v. 3, p. 205.

Rapid drying printing and lithographic ink. Olive oil, sandarac, stearin, soap, resin, olein, wax.

*1745b. Kurtz-Haehnle, C. 459300. 1913.

J.S.C.I., 1913, v. 32, p. 1153.

De-inking process.

*1745c. Berger, and WIRT. 458646. 1913.

C. A., 1914, v. 8, p. 3245.

Printers' colored ink. Albuminous substances, alkalis, oleosulphonic acid or its salts.

*1746. Wolff, M. 462452. 1913.

Mon. sc. B., 1914, série 5, tome 4, p. 157; J.S.C.I., 1914, v. 33, p. 267.

Printers' black using peat.

Patents—France, continued.

- *1746a. **Turkin, N. W.** 467039. 1914.
J.S.C.I., 1914, v. 33, p. 838.
Manufacture of printing colors. Pigments based on turkey-red oil and an alkali.
- *1747. **General Waste-paper Recovery Co.**
478288. 1915.
J.S.C.I., 1916, v. 35, p. 1009.
De-inking process.
1748. **Olsen, J. C.** 503492. 1919.
Solid ink. Dextrin, anilin, graphite, tannate of iron.
- *1749. **Ruetgerswerke Akt. Ges., and H. TERCHMANN.** 535383. 1922.
Chim. et ind., 1922, v. 8, p. 1070.
Printers' black ink from tars. See French patent: 518884 of 1921.
- *1750. **Eyrich, H. R., and J. A. SCHREIBER.** 535859. 1922.
Mon. sc. B., 1923, série 5, tome 13, p. 41;
Chim. et ind., 1922, v. 8, p. 878.
De-inking process.
- *1751. **Fitzgerald, F. C.** 537905. 1922.
Lithographic ink. Glycerin, chloride of calcium, phosphate of potassium, carbolic acid, gum, and litho ink.
- *1752. **Gauvin, S. A.** 538968. 1922.
Printers' black and colored inks. Uses extract of *Pistachier lentiscus*.
- *1753. **Angier, E.** 552622. 1923.
Chim. et ind., 1923, v. 10, p. 942; Cent., 1923, Jahrg. 94, pt. 2., Tech. Teil, p. 423.
De-inking process.
1754. **Plauson's, Ltd.** 552668. 1923.
Colloidal writing ink.
- *1755. **Alchemic Gold Co.** 555722. 1923.
Chemisches Centralblatt, 1923, Jahrg. 94, Teil 2, Tech. Teil, p. 772.
Printers' embossing ink.
1756. **Reitze, E., and E. TRUJILLO.** 560641. 1923.
Finger-print ink for documents. Glycerin, alcohol and color.
- *1757. **Alchemic Gold Co.** 560827-28. 1923.
Metallic printers' inks.
1758. **Spensley, J. W.** 562541. 1923.
Centrifugal ink machine.
- *1759. **Sauvage, F.** 562906. 1923.
Luminous printers' inks.
1760. **Indelible Coloration Co.** 564039. 1923.
Fusible ceramic ink.
1761. **Dello Ink Corporation.** 568003. 1924.
Indelible writing ink with alum base.
1762. **Goldsmith, B. B.** 570984. 1924.
Ink cartridge and recipe for ink tablet.
1763. **Établissements Édouard Belin.** 571735. 1924.
Ink for producing relief surfaces.
1764. **Kaumagraph Co.** 579568. 1924.
Marking ink. Stearic acid, indulin base.
- *1765. **Bourcet, P., and H. REGNAULT.** 580624. 1924.
De-inking process.
1766. **Nater, J.** 581031. 1924.
Copying ink for fountain pens. Water, glycerin, color, wood gum arabic.
1767. **Ink-out Manufacturing Co.** 586796. 1924.
De-inking process.

GERMANY

The Library has no specifications. Brief abstracts are contained in the official Auszüge aus den Patentschriften. The date following the patent number denotes the year of application.

- *1768. **Wohlfarth, A.** 6916. 1878.
Printers' metallic ink.
- *1769. **Guenther, H.** 9566. 1879.
Aus., 1880, p. 205; Wag. Jahr., 1880, Jahrg. 26, p. 795; J.A.C.S., 1880, v. 2, p. 231; Ber., 1880, Jahrg. 13, p. 942; Lange, v. 3, p. 207.
Printers' black ink. Asphalt, tar oil, anilin violet, resin oil.
- *1770. **Guenther, H.** 11930. 1880.
Aus., 1880, p. 638; Wag. Jahr., 1880, Jahrg. 26, p. 795; J.A.C.S., 1881, v. 3, p. 71; Ber., 1880, Jahrg. 13, p. 2101, 2449; Lange, v. 3, p. 207.
Printers' black ink. Tar oil from anthracene, copper chloride, anilin violet. Addition to D. R. P. no. 9566, 1879.
- *1771. **Wilhelm, J. J.** 12282. 1879.
Aus., 1881, p. 74; Wag. Jahr., 1881, Jahrg. 27, p. 943; Ber., 1881, Jahrg. 14, p. 123; J.A.C.S., 1881, v. 3, p. 75; Lange, v. 3, p. 207.
Printers' ink. Coal tar, colophony, paraffin, oil, potassium chloride, glycerin, lampblack, and dark anilin color.
- *1772. **Wilhelm, J. J.** 12286. 1880.
Aus., 1881, p. 74; Wag. Jahr., 1881, Jahrg. 27, p. 943; J.A.C.S., 1881, v. 3, p. 75; Ber., 1881, Jahrg. 14, p. 123.
Printers' black ink. Coal tar, sulphuric acid, soda, chlorine, lard, glycerin, lampblack, with modifications.
1773. **Frobeen, L.** 14942. 1881.
Aus., 1881, p. 523; Wag. Jahr., 1881, Jahrg. 27, p. 892.
Fireproof ink. Metallic color, watercolor, platinum chloride, gum arabic.

*Patents — Germany, continued.****1774. Brackebusch, H.** 16227. 1881.

Aus., 1881, p. 834; Wag. Jahr., 1881, Jahrg. 27, p. 944; J.S.C.I., 1882, v. 1, p. 21, 63; Tech. chem. J., 1882-83, Jahrg. 5, p. 461; Ber., 1881, Jahrg. 14, p. 2715; Lange, v. 3, p. 205.

Printers' colored ink. Paraffin oil, colophony.

***1775. Guenther, H.** 16905. 1881.

Aus., 1882, p. 96; Wag. Jahr., 1882, Jahrg. 28, p. 1041; Ber., 1882, Jahrg. 15, p. 402; Tech. chem. J., 1882-83, Jahrg. 5, p. 461; Lange, v. 3, p. 206.

Printers' black ink. Addition to D. R. P. no. 9566, 1879.

***1776. Reissig, W.** 17462. 1881.

Aus., 1882, p. 220; Wag. Jahr., 1882, Jahrg. 28, p. 1040; J.S.C.I., 1882, v. 1, p. 145; Tech. chem. J., 1882-83, Jahrg. 5, p. 461; Lange, v. 3, p. 207.

Black safety printing and stamping ink. Addition of iron salts, or of metallic iron, to inks made from lampblack and linseed oil varnish.

***1777. Magne, J. J.** 17515. 1881.

Aus., 1882, p. 403; Wag. Jahr., 1882, Jahrg. 28, p. 1013; Tech. chem. J., 1881-82, Jahrg. 4, p. 361; Lange, v. 3, p. 204, 215.

Autographic transfer ink. Varnish, double salt of chromium, potassium ferricyanid, and a color. Also uses a pencil composed of paraffin and pine soot.

***1778. Martens, J. F.** 17560. 1881.

Aus., 1882, p. 348.

Autographic transfer process, using special paper with a solution of chrome alum and a color.

1779. Schmidt, C., and E. VEHL. 19219. 1882.

Aus., 1882, p. 518; J.S.C.I., 1882, v. 1, p. 403; Tech. chem. J., 1882-83, Jahrg. 5, p. 515.

Paper treated with sympathetic ink. Uses linseed oil, ammonia, and water.

1780. Knab, C. 20600. 1882.

Aus., 1883, p. 61; Wag. Jahr., 1883, Jahrg. 29, p. 1131; J.S.C.I., 1883, v. 2, p. 183; Tech. chem. J., 1883-84, Jahrg. 6, p. 432; Lange, v. 3, p. 213.

Blue-black signature ink. Logwood extract, alcohol, hydrochloric acid, potassium chromate, dextrin, and kaolin.

***1781. Gebrueder Schmidt.** 21408. 1882.

Aus., 1883, p. 154; Wag. Jahr., 1883, Jahrg. 29, p. 1131; J.S.C.I., 1883, v. 2, p. 243; Tech. chem. J., 1882-83, Jahrg. 5, p. 461; Lange, v. 3, p. 207.

Black printing and stamping ink. Linseed oil varnish, superoxide of manganese. Makes paper adaptable to de-inking.

1782. Gebrueder Schmidt. 21740. 1882.

Aus., 1883, p. 183.

Transfer ink for embroidery. Printers' ink, wax, and glycerin.

1783. Appleyard, T. W., jr., and others. 27585. 1883.

Aus., 1884, p. 407; Tech. chem. J., 1883-84, Jahrg. 6, p. 411; Ber., 1884, Jahrg. 17, Referate, p. 340.

Black writing ink. Tannic acid, soda lye, iron vitriol.

***1784. Guichard, E. A. D.** 31171. 1884.

Aus., 1885, p. 260; Wag. Jahr., 1885, Jahrg. 31, p. 1039; Tech. chem. J., 1884-85, Jahrg. 7, p. 479.

De-inking process.

***1785. Lischke, F. A., and E. LAUTERBACH.** 32509. 1884.

Aus., 1885, p. 437.

Lithographic ink. Glycerin, varnish, sodium chloride, and caramel.

***1786. Brings, W.** 47942. 1888.

Tech. chem. J., 1889-90, Jahrg. 12, p. 518.

Lithographic and metal plate ink. Resin-free printers' ink in conjunction with a solution of wax, asphalt, resin, and turpentine.

***1787. Decker, T. A.** 53359. 1889.

Aus., 1890, p. 744.

Printers' colored ink. To a printers' ink of colophony, molasses, tar, litharge, and indigo are added copaiba balsam, silver nitrate, and aqua regia.

***1788. Higgins, C. M.** 57848. 1890.

Aus., 1891, p. 612; Wag. Jahr., 1891, Jahrg. 37, p. 1173; Lange, v. 3, p. 215.

Printers' copying and stamping ink. Coal tar products with oil of cloves or of cinnamon.

1789. Krawutschke, C. 62046. 1891.

Aus., 1892, p. 384; Wag. Jahr., 1892, Jahrg. 38, p. 950.

Stamping ink for meat. Alcoholic extract of logwood and alkanna root, salicylic acid, tannic acid, and glycerin.

***1790. Richard, T.** 62937. 1890.

Aus., 1892, p. 572; Ber., 1892, Jahrg. 25, Referate, p. 711.

Printers' transfer ink for oil colors.

***1791. Castaneda, J.** 66214. 1892.

Aus., 1893, p. 146; Ber., 1893, Jahrg. 26, Referate, p. 256.

Recovery of printers' ink.

1791a. Genzsch, A., and K. KLIMOSCH. 69054. 1891.

Aus., 1893, p. 673; Lange, v. 3, p. 227; Wag. Jahr., 1893, Jahrg. 39, p. 1057.

Red ink marking pencil. Alizarin and congo-red (benzopurpurin), Glauber's salts, soap, pyrolusite, water glass, turkey-red oil, gallic acid, and gypsum.

***1792. Horst, L.** 71012. 1892.

Aus., 1893, p. 1101; Wag. Jahr., 1893, Jahrg. 39, p. 1059; Tech. chem. J., 1893-94, Jahrg. 16, p. 540.

De-inking process.

*Patents — Germany, continued.****1793. Higgins, C. M.** 71912. 1892.

Aus., 1893, p. 1198; Wag. Jahr., 1893, Jahrg. 39, p. 1094; Tech. chem. J., 1893-94, Jahrg. 16, p. 332; Lange, v. 3, p. 215.

Printing and stamping ink. Carbolic acid, castor or cassia oil, anilin color.

***1794. Lohmann, P.** 75447. 1893.

Aus., 1894, p. 576; Wag. Jahr., 1894, Jahrg. 40, p. 1059; Tech. chem. J., 1894-95, Jahrg. 17, p. 570; Ber., 1894, Jahrg. 27, Referate, p. 835.

De-inking process.

***1795. Horst, L.** 76017. 1893.

Aus., 1894, p. 670; Wag. Jahr., 1894, Jahrg. 40, p. 1059; Zeit. ang. C., 1894, p. 662.

De-inking process.

1796. Arndt, E. M. 83547. 1894.

Aus., 1895, p. 813; Wag. Jahr., 1895, Jahrg. 41, p. 1082; Ber., 1895, Jahrg. 28, Referate, p. 1037; Tech. chem. J., 1895-96, Jahrg. 18, p. 411; Lange, v. 3, p. 212.

Stamping ink. Tanning extracts in alcohol, glycerin, color, and water.

***1797. Hiebsch, B.** 87730. 1895.

Aus., 1896, p. 551; Wag. Jahr., 1896, Jahrg. 42, p. 1064; Ber., 1896, Jahrg. 29, Referate, p. 721; Lange, v. 3, p. 204.

Varnish for printers' ink. Ammonia and water added to printers' inks made from petroleum, linseed oil, and glycerin.

***1798. Moutardier, E., and G. PICARD.**

88563. 1895.

Aus., 1896, p. 723; Wag. Jahr., 1896, Jahrg. 42, p. 1027.

De-inking process.

1799. Greville-Williams, R. 91357. 1895.

Aus., 1897, p. 242.

Telegraphic ink.

***1800. Hinzelmann, M.** 96403. 1897.

Aus., 1898, p. 274; Wag. Jahr., 1898, Jahrg. 44, p. 1159; Zeit. ang. C., 1898, p. 454; Tech. chem. J., 1897-98, Jahrg. 20, p. 296; Lange, v. 3, p. 204.

Varnish for bronze printing inks.

***1801. Maitre, E.** 99228. 1897.

Aus., 1898, p. 711; Wag. Jahr., 1898, Jahrg. 44, p. 1128; Tech. chem. J., 1898-99, Jahrg. 21, p. 392; Mon. sc. B., 1899, série 4, v. 13, p. 52.

Gold, bronze, and silver printing inks. Naples gold, sienna earth, coconut oil, nut oil, garlic.

1802. Moeller, J. 99288. 1897.

Aus., 1898, p. 816; Wag. Jahr., 1898, Jahrg. 44, p. 1122; Tech. chem. J., 1898-99, Jahrg. 21, p. 395; Cent., 1899, Jahrg. 70, Teil 1, p. 397; Lange, v. 3, p. 223.

Sympathetic ink. Alum, water, garlic, sulphuric acid.

***1802a. Dordtsche Petroleum Maatschappij.** 101068. 1897.

Aus., 1899, p. 97; Lange, v. 3, p. 205.

Printing ink binder using Grisee oil.

***1803. Adelsberger, J.** 102747. 1897.

Aus., 1899, p. 321; Cent., 1899, Jahrg. 70, Teil 1, p. 1264.

Lithographic ink. Acidified glycerin with addition of color.

***1804. Burger, H. J.** 103043. 1898.

Aus., 1899, p. 448; Cent., 1899, Jahrg. 70, Teil 2, p. 501.

Lithographic ink. Addition of shellac and asphalt solution to ordinary lithographic ink.

1805. Firma August Leonhardi.

105107. 1897.

Aus., 1899, p. 865; Tech. chem. J., 1899, Jahrg. 22, p. 453; Cent., 1900, Jahrg. 71, Teil 1, p. 159.

Stamping ink for meat.

1806. Kornacher, F., and M. BRUMM.

105735. 1897.

Aus., 1899, p. 920; Wag. Jahr., 1899, Jahrg. 45, p. 1062; Cent., 1900, Jahrg. 71, Teil 1, p. 382; Tech. chem. J., 1899, Jahrg. 22, p. 399.

Vanadium ink for special paper.

1807. Rottach, J., and J. HANSEL.

107045. 1897.

Aus., 1900, p. 131; Cent., 1900, Jahrg. 71, Teil 1, p. 888.

Preparation for printing on hard gelatin surfaces.

1808. Kretschmann, E. 109201. 1899.

Aus., 1900, p. 492; Wag. Jahr., 1900, Jahrg. 46, Teil 2, p. 531; Tech. chem. J., 1899, Jahrg. 22, p. 399; Cent., 1900, Jahrg. 71, Teil 1, p. 1256; Lange, v. 3, p. 224.

Sympathetic ink and paper, using cobalt salt and chloride of sodium.

***1809. Kinloch, R. H.** 109825. 1897.

Aus., 1900, p. 580; Wag. Jahr., 1900, Jahrg. 46, Teil 2, p. 557; Tech. chem. J., 1900, Jahrg. 23, p. 309; Cent., 1900, Jahrg. 71, Teil 2, p. 295; Zeit. ang. C., 1900, p. 277; Lange, v. 3, p. 205.

Printers' black and colored ink that will not "run." Ordinary inks mixed with glycerin, copaiba balsam, sandalwood oil, petroleum, pine balsam, alcohol, pyrolusite, turpentine, chloroform, ether, and concentrated ammonia.

1810. Kretschmann, E. 111658. 1899.

Aus., 1900, p. 904; Wag. Jahr., 1900, Jahrg. 46, Teil 2, p. 532; Lange, v. 3, p. 224.

Sympathetic ink and paper. Paratoluidin, resorcin, sulphuric acid.

***1811. Giesecke, K.** 115158. 1899.

Aus., 1900, p. 1564.

Autographic ink. Ordinary printers' ink, varnish, turpentine, lavender oil, and india ink.

Patents — Germany, continued.

- 1812. Kretschmann, E.** 115445. 1900.
Aus., 1900, p. 1566; Wag. Jahr., 1900, Jahrg. 46, Teil 2, p. 531; Cent., 1900, Jahrg. 71, Teil 2, p. 1191; Tech. chem. J., 1900, Jahrg. 23, p. 554; Lange, v. 3, p. 224.
Sympathetic paper based on cobalt salt. Writes with solution of salt and vinegar.
- *1813. Oefer, E.** 118206. 1899.
Aus., 1901, p. 415.
Powdered colors for printers' inks. Color, glycerin, mica, and albumin.
- 1814. Copir-Telegraph G.m.b.H.**
119430. 1900.
Aus., 1901, p. 639.
Telegraph ink pencil. Paraffin, wax, or pitch.
- *1815. Knopf, B.** 127820. 1900.
Aus., 1902, p. 315; Wag. Jahr., 1902, Jahrg. 48, Teil 2, p. 566; Tech. chem. J., 1901, Jahrg. 24, p. 587; Chem. Ztg., 1902, Jahrg. 26, Teil 1, p. 98.
De-inking process.
- *1816. Wechsler, S.** 128180. 1900.
Aus., 1902, p. 474; Chem. Ztg., 1902, Jahrg. 26, Teil 1, p. 188.
Lithographic and metal plate ink allowing continuous printing. Glycerin, carbonate of soda, tartar, turpentine, varnish.
- *1817. Hofer & Co.** 132894. 1900.
Aus., 1902, p. 1214; Wag. Jahr., 1902, Jahrg. 48, Teil 2, p. 594; Chem. Ztg., 1902, Jahrg. 26, Teil 2, p. 658; Tech. chem. J., 1902, Jahrg. 25, p. 539.
Printers' ink for celluloid. Lithographic ink, ether, camphor, paraffin, and manganese varnish.
- *1818. Brandel, F. de, and A. DE BAUDRY d'Asson.** 134201. 1901.
Aus., 1902, p. 1461; Chem. Ztg., 1902, Jahrg. 26, Teil 2, p. 852; Tech. chem. J., 1901, Jahrg. 24, p. 468; Jahr. Chem., 1902, Teil 1, p. 750.
Printers' ink. Mineral oil, coal tar color, and alcohol.
- 1818a. Siebicke, O., and H. MÜLLER.**
145683. 1902.
Aus., 1903, p. 1646; Lange, v. 3, p. 214.
Stamping ink for embroidery. Rapeseed oil, kaolin, starch, sodium thiosulphate.
- 1819. Peters, R.** 158151. 1904.
Aus., 1905, p. 358; J.S.C.I., 1905, v. 24, p. 742; Tech. chem. J., 1904, Jahrg. 27, p. 443; Cent., 1905, Jahrg. 76, Teil 1, p. 488; Chem. Ztg., 1905, Jahrg. 29, Teil 1, p. 126; Zeit. ang. C., 1905, Jahrg. 18, Teil 1, p. 671.
Black pigment from waste carbon electrodes.
- *1820. Kunze, A.** 159781. 1903.
Aus., 1905, p. 727; Tech. chem. J., 1904, Jahrg. 27, p. 604; Zeit. ang. C., 1905, Jahrg. 18, p. 960; Lange, v. 3, p. 214.
Process for dry stamping of leather, cloth, etc. Color, wax, paraffin.
- 1821. Charles, P., and S. FAUJAT.**
160278. 1904.
Aus., 1905, p. 819.
Ox-gall preparation for gelatin copying mass.
- 1821a. Schnauber, A.** 163510. 1904.
Aus., 1906, p. 29; Lange, v. 3, p. 214; Wag. Jahr., 1905, Jahrg. 51, Teil 2, p. 435.
Stamping ink for embroidery.
- 1822. Beauvoir de Lisle, de, and E. V. LUTTRELL.** 167773. 1904.
Aus., 1906, p. 605; Zeit. ang. C., 1906, Jahrg. 19, p. 1334; Lange, v. 3, p. 213.
Branding fluid. Tar and tartar emetic.
- *1823. Duncan, G. S.** 168509. 1905.
Aus., 1906, p. 825.
Composition to prevent "set-off."
- *1824. Charlottenburger Farbwerke A. G.**
169947. 1904.
Aus., 1906, p. 1054; Wag. Jahr., 1906, Jahrg. 52, Teil 2, p. 511; Zeit. ang. C., 1907, Jahrg. 20, p. 119; Cent., 1906, Jahrg. 77, Teil 2, p. 575; Lange, v. 3, p. 205.
Lithographic ink. Varnish, glycerin, and ammonia.
- *1824a. Charlottenburger Farbwerke A. G.**
170983. 1904.
Aus., 1906, p. 1221; Lange, v. 3, p. 205; Wag. Jahr., 1906, Jahrg. 52, Teil 2, p. 511.
Printers' ink for flat printing. Addition of glycerin and varnish to ordinary ink.
- *1824b. Badische Anilin und Soda Fabrik.**
172465. 1903.
Aus., 1906, p. 1708; Lange, v. 3, p. 204; Wag. Jahr., 1906, Jahrg. 52, Teil 2, p. 218.
Printers' ink. Water- and oil-soluble salts of color bases.
- 1825. Faujat, S., and P. CHARLES.**
174386-87. 1905.
Aus., 1906, p. 2236.
Preparation of inks for gelatin copying mass.
- *1826. Klusek, E.** 185749. 1906.
Aus., 1907, p. 1881; Wag. Jahr., 1907, Jahrg. 53, Teil 2, p. 546; Rep., 1907, Jahrg. 31, p. 335; Lange, v. 3, p. 205.
Reducer for lithographic ink. Spermaceti, venetian soap, stearin, wax, fat, linseed oil, bronze ink varnish.
- *1826a. Claessen, C.** 198711. 1907.
Aus., 1908, p. 1770.
Plastic masses using polyglycerins.
- *1826b. Claessen, C.** 198768. 1907.
Aus., 1908, p. 1725.
Manufacture of polyglycerins.
- 1827. Livingston, J.** 205072. 1907.
Aus., 1909, p. 208.
Preparation of inks for gelatin mass.
- 1828. Garzino, L.** 213279. 1908.
Aus., 1909, p. 2117; Rep., 1909, Jahrg. 33, p. 527; Lange, v. 3, p. 224.
Sympathetic ink. Ferrocyanid of potassium, iron alum, powdered graphite, and magnesium carbonate.

*Patents — Germany, continued.****1829. Henkel & Co.** 215312. 1908.

Aus., 1909, p. 2585; Rep., 1909, Jahrg. 33, p. 670; Zeit. ang. C., 1909, Jahrg. 22, p. 2438; J.S.C.I., 1910, v. 29, p. 18, 690; 1911, v. 30, p. 533.

De-inking process.

***1830. Amand, A. A. J. L.** 217080. 1908.

Aus., 1910, p. 181.

Lithographic ink and crayon, also cleaning compound. Ink from olein, resin, and lampblack.

1831. Ostwald, W. 218531. 1908.

Aus., 1910, p. 515; J.S.C.I., 1910, v. 29, p. 501; Wag. Jahr., 1910, Jahrg. 56, Teil 2, p. 531; Cent., 1910, Jahrg. 81, Teil 1, p. 783; Rep., 1910, Jahrg. 34, p. 120; Zeit. ang. C., 1910, Jahrg. 23, p. 624; Lange, v. 3, p. 224.

Inks for wax paper, ivory, parchment, etc. Adds to writing and drawing inks the volatile organic compounds of the aliphatic series.

***1832. Schukart, G.** 218627. 1909.

Aus., 1910, p. 508; Lange, v. 3, p. 206.

To prevent "set-off" of lithographic inks. Wax, vaselin, detergent, carbolic acid, creosol soap solution, ether, carbolineum, and petroleum.

***1833. Herz, L.** 220424. 1909.

Aus., 1910, p. 879; J.S.C.I., 1910, v. 29, p. 751; Wag. Jahr., 1910, Jahrg. 56, Teil 2, p. 532; C. A., 1910, v. 4, p. 2203; Cent., 1910, Jahrg. 81, Teil 1, p. 1339; Zeit. ang. C., 1910, Jahrg. 23, p. 959; Rep., 1910, Jahrg. 34, p. 209.

De-inking process.

1834. Fern-Schnell-Schreiber G.m.b.H.

222466. 1909.

Aus., 1910, p. 1307.

Telegraphic ink.

1835. Carboneille, H. 223889. 1909.

Aus., 1910, p. 1571.

Non-conducting telegraphic ink.

1836. Firma Eduard Beyer. 224637. 1909.

Aus., 1910, p. 1730; J.S.C.I., 1910, v. 29, p. 1120; C. A., 1911, v. 5, p. 2570; Rep., 1910, Jahrg. 34, p. 416; Jahr. Chem., 1910, Teil 2, p. 1263; Zeit. ang. C., 1910, Jahrg. 23, p. 2064; Lange, v. 3, p. 215.

Iron-gall colors for inking ribbons, stamp pads, drawing inks, etc. Aldehydes, ammoniumoxyferrigallate, oil, glycerin (or aqueous shellac solution).

***1837. A. G. für Anilin-Fabrikation.**

225275. 1908.

Aus., 1910, p. 1986; C. A., 1911, v. 5, p. 1195; J.S.C.I., 1910, v. 30, p. 82; Cent., 1910, Jahrg. 81, Teil 2, p. 1107; Rep., 1910, Jahrg. 34, p. 519; Lange, v. 3, p. 207.

Printers' ink which can be bleached. Sulphur black, or blue-black, or substantive black cotton dyes, rubbed up with varnish.

1838. Hochstetter, R. 226003. 1909.

Aus., 1910, p. 1986; Rep., 1910, Jahrg. 34, p. 519; Zeit. ang. C., 1910, Jahrg. 23, p. 2299; Lange, v. 3, p. 215.

Mimeograph ink. Pigment, glycerin, and turkey red oil.

***1839. Schmidt, Kasseker & Co.**

229192. 1908.

Aus., 1911, p. 113; Wag. Jahr., 1911, Jahrg. 57, Teil 2, p. 532; C. A., 1912, v. 6, p. 144; Rep., 1911, Jahrg. 35, p. 14; Zeit. ang. C., 1911, Jahrg. 24, p. 134.

Ceramic printing ink. Lead salt with linseed oil.

1840. Firma Eduard Beyer. 229467. 1910.

Aus., 1911, p. 159; Wag. Jahr., 1911, Jahrg. 57, Teil 2, p. 532; C. A., 1911, v. 5, p. 2570; J.S.C.I., 1911, v. 30, p. 204; Cent., 1911, Jahrg. 82, Teil 1, p. 279; Rep., 1911, Jahrg. 35, p. 28; Zeit. ang. C., 1911, Jahrg. 24, p. 144.

Iron-gall colors for inking ribbons, stamp pads, etc. Amendment to D.R.P. no. 224637, 1909.

***1841. Petsche, B. W.** 233665. 1910.

Aus., 1911, p. 1061; C. A., 1912, v. 6, p. 1851; Rep., 1911, Jahrg. 35, p. 250; Zeit. ang. C., 1911, Jahrg. 24, p. 911.

De-inking process.

***1841a. Wechsler, S.** 236338. 1909.

C. A., 1911, v. 5, p. 3632; Cent., 1911, Jahrg. 82, Teil 2, p. 313.

Colors for printing rolls etched in relief. Dry powdered color, varnish, glycerol, alkali salt, resin oil.

***1842. Badische Anilin & Soda Fabrik.**

252052. 1911.

Aus., 1912, p. 2169; J.S.C.I., 1912, v. 31, p. 1191; Wag. Jahr., 1912, Jahrg. 58, Teil 2, p. 561; C. A., 1913, v. 7, p. 427; Cent., 1912, Jahrg. 83, Teil 2, p. 1592; Rep., 1912, Jahrg. 36, p. 587; Zeit. ang. C., 1912, Jahrg. 25, p. 2511; Lange, v. 3, p. 205.

Addition of resin to fatty ink prevents penetration into the paper.

***1843. Wolf, K.** 252998. 1911.

Aus., 1912, p. 2346; Lange, v. 3, p. 205.

Lithographic ink. Coal-tar color, wax, turpentine, asphalt, and varnish.

***1844. Kurtz-Haehnle, C.** 254554. 1910.

Aus., 1913, p. 97; C. A., 1913, v. 7, p. 1288; Wag. Jahr., 1912, Jahrg. 58, Teil 2, p. 555; Cent., 1913, Jahrg. 84, Teil 1, p. 363; Rep., 1913, Jahrg. 37, p. 12; Zeit. ang. C., 1913, Jahrg. 26, p. 175.

De-inking process.

1844a. Sauter, W. T. 255448. 1912.

Aus., 1913, p. 212; Lange, v. 3, p. 231; Wag. Jahr., 1913, Jahrg. 59, Teil 2, p. 503; Cent., 1913, Jahrg. 84, Teil 1, p. 481.

Process for restoration of faded writings.

***1844b. Stuerler, A. L. de.** 263220. 1912.

Aus., 1913, p. 1826; J.S.C.I., 1913, v. 32, p. 907; C. A., 1913, v. 7, p. 4069.

De-inking process.

***1845. Chwala, A.** 264017. 1912.

Aus., 1913, p. 1920; Cent., 1913, Jahrg. 84, Teil 2, p. 1183; Rep., 1913, Jahrg. 37, p. 530.

Printers' ink detergent. Carbontetrachloride, trichlorethylene, and soap solution.

Patents — Germany, continued.

*1846. Schuetze, L., and R. FISCHER.
265902. 1912.

Aus., 1913, p. 2314; J.S.C.I., 1913, v. 32, p. 1007; Wag. Jahr., 1913, Jahrg. 59, Teil 2, p. 581; C. A., 1914, v. 8, p. 579; Cent., 1913, Jahrg. 84, Teil 2, p. 1635; Zeit. ang. C., 1913, Jahrg. 26, Teil 2, p. 750; Lange, v. 3, p. 205.

Printers' ink. Albumin, alkali, sulphonated oil or salt thereof, color.

1847. Athenaeum Verlags und Druckerei
A. G. 268533. 1911.

Aus., 1914, p. 126; C. A., 1914, v. 8, p. 2060; Rep., 1914, Jahrg. 38, p. 66.

Carbon paper prepared with heavy hydrocarbons, especially petroleum.

*1848. Hantke, F. 269755. 1913.

Aus., 1914, p. 388; Rep., 1914, Jahrg. 38, p. 94.

Preparation for toning up lithographic plate.

1849. Firma G. H. Cohn. 270073. 1913.

Aus., 1914, p. 447; C. A., 1914, v. 8, p. 2260; Wag. Jahr., 1914, Jahrg. 60, Teil 1, p. 609.

Grinding rolls for pigments.

*1850. Wolff, M. 270336. 1913.

Aus., 1914, p. 502; Wag. Jahr., 1914, Jahrg. 60, Teil 2, p. 462; Rep., 1914, Jahrg. 38, p. 123; Zeit. ang. C., 1914, Jahrg. 27, Teil 2, p. 192; Lange, v. 3, p. 207.

Printers' black from peat.

*1851. Heinze, C. 274965. 1913.

Aus., 1914, p. 1408.

Printers' ink detergent. Olein, glycerin, turpentine, benzin, petroleum.

1852. Charles, P. 276477. 1913.

Aus., 1914, p. 1684; C. A., 1915, v. 9, p. 850; J.S.C.I., 1914, v. 33, p. 1021; Cent., 1914, Jahrg. 85, Teil 2, p. 446; Rep., 1914, Jahrg. 38, p. 492.

Ink for gelatin copying surface.

1853. Charles, P. 276622. 1913.

Aus., 1914, p. 1739; C. A., 1915, v. 9, p. 850; J.S.C.I., 1914, v. 33, p. 1021; Cent., 1914, Jahrg. 85, Teil 2, p. 446; Rep., 1914, Jahrg. 38, p. 492.

Ink for gelatin copying surface. Addition to D.R.P. no. 276477.

*1854. Lauthe, O., and E. LAUTHE.
278007. 1912.

Aus., 1914, p. 2037; C. A., 1915, v. 9, p. 1127; Rep., 1914, Jahrg. 38, p. 531.

Printers' etching ink.

1854a. Padberg, A. 280841. 1914.

Aus., 1915, p. 13; Rep., 1915, Jahrg. 39, p. 4.

Ink bodies in compressed or paste form.

*1855. Homburg, R. 282953. 1913.

Aus., 1915, p. 470; C. A., 1915, v. 9, p. 2439; Rep., 1915, Jahrg. 39, p. 128.

Printers' transfer ink.

*1856. Gruene, C. 288879. 1914.

Aus., 1915, p. 1785; J.S.C.I., 1916, v. 35, p. 429; Wag. Jahr., 1916, Jahrg. 62, Teil 2, p. 285; C. A., 1916, v. 10, p. 2583; Zeit. ang. C., 1916, Jahrg. 29, Teil 2, p. 63; Lange, v. 3, p. 206.

Dark printing inks. Kieselguhr and carbon, heated in absence of air, ground with a binding agent, and mixed with dye.

*1857. Kurtz-Haehnle, C. 288900. 1913.

Aus., 1915, p. 1790; Wag. Jahr., 1916, Jahrg. 62, Teil 2, p. 238; C. A., 1916, v. 10, p. 2638; Cent., 1916, Jahrg. 87, Teil 1, p. 124; Rep., 1915, Jahrg. 39, p. 498; Zeit. ang. C., 1916, Jahrg. 29, Teil 2, p. 49.

De-inking process. Addition to D.R.P. no. 254554.

1858. Firma Guenther Wagner.

289140. 1915.

Aus., 1915, p. 1832; Wag. Jahr., 1916, Jahrg. 62, Teil 2, p. 285; C. A., 1916, v. 10, p. 2510; Cent., 1916, Jahrg. 87, Teil 1, p. 199; Zeit. ang. C., 1916, Jahrg. 29, Teil 2, p. 63.

White writing ink. Solution of zinc hydroxide or magnesium hydroxide in ammonia (or ammonia salt solution) or lye.

*1859. Friedrich, V. 295489. 1915.

J.S.C.I., 1917, v. 36, p. 296; Wag. Jahr., 1917, Jahrg. 63, Teil 2, p. 262; Cent., 1917, Jahrg. 88, Teil 1, p. 151; Rep., 1917, Jahrg. 41, p. 28; Zeit. ang. C., 1917, Jahrg. 30, Teil 2, p. 24; Kunst., 1917, Jahrg. 7, p. 25; Lange, v. 3, p. 206.

Printers' ink. Dilution of printers' ink with water mixed with wool fat, and the addition of coloring matter.

*1860. Zaeslé, M., and P. ZAESLÉ.

295670. 1915.

Wag. Jahr., 1917, Jahrg. 63, Teil 2, p. 203-204; J.S.C.I., 1917, v. 36, p. 640; Kunst., 1917, Jahrg. 7, p. 36; Rep., 1917, Jahrg. 41, p. 28; Zeit. ang. C., 1917, Jahrg. 30, Teil 2, p. 36.

Thickener for printers' ink using arrow-root or manioc in such a way that the cellulose is completely separated.

*1860a. Kronstein, A. 302544. 1916.

Aus., 1919, p. 1129; Lange, v. 3, p. 206; J.S.C.I., 1920, v. 39, p. 122a; Wag. Jahr., 1919, Jahrg. 65, Teil 2, p. 344.

Printers' ink varnish. Base from fish-oil distillation.

*1861. Goldschmidt, T. 309911. 1917.

Aus., 1919, p. 46; J.S.C.I., 1919, v. 38, p. 379a; C. A., 1919, v. 13, p. 1772; Chim. et ind., 1920, v. 3, p. 351; Cent., 1919, Jahrg. 90, Teil 2, p. 264; Rep., 1919, Jahrg. 43, p. 36; Lange, v. 3, p. 213.

Printing and stamping inks, using glycol.

Patents — Germany, continued.

1861a. Maison, H., and R. MAISON.
313682. 1918.

Aus., 1919, p. 756; Lange, v. 3, p. 226;
Wag. Jahr., 1919, Jahrg. 65, Teil 2, p. 257.

Ink tablets. To usual ingredients adds magnesium sulphate or sodium sulphate before pressing.

1862. Rosenberg, H. 323138. 1917.

Aus., 1920, p. 1765; Wag. Jahr., 1920, Jahrg. 66, Teil 2, p. 393-394; J.S.C.I., 1920, v. 39, p. 757a; Kunst., 1920, Jahrg. 10, p. 204; Chem. tech. Übers., 1921, Jahrg. 45, p. 104; Chim. et ind., 1922, v. 7, p. 543; Lange, v. 3, p. 226.

Ink tablets containing substances which generate gases on the addition of water, thus disintegrating the mass.

1863. Gethe, H. 331622. 1920.

Aus., 1921, p. 262; Wag. Jahr., 1921, Jahrg. 67, Teil 2, p. 361; Chem. tech. Übers., 1921, Jahrg. 45, p. 216.

Indelible ink. Addition of potassium ferrocyanide to ordinary writing ink.

***1864. Fiedler, K.** 339106. 1916.

Aus., 1921, p. 1823; Wag. Jahr., 1921, Jahrg. 67, Teil 2, p. 362; Lange, v. 3, p. 205.

Printers' ink using mineral oil products described in D.R.P. no. 287309 and D.R.P. no. 216459.

***1865. Albert, E.** 340624. 1916.

Aus., 1923, p. 115; Chim. et ind., 1922, v. 8, p. 467; Chem. tech. Übers., 1921, Jahrg. 45, p. 284; Cent., 1923, Jahrg. 94, Teil 1, Tech. Teil, p. 1253.

Manufacture of colors for printers' inks, using emulsions described in D.R.P. no. 326468.

***1866. Chemische Fabriken Plagwitz-Zerbst, and J. VON BOSSE.**
345141. 1920.

Aus., 1922, p. 20; Wag. Jahr., 1921, Jahrg. 67, Teil 2, p. 361; J.S.C.I., 1922, v. 41, p. 510a; Lange, v. 3, p. 213.

Binders for inks, printing inks, and ink rollers, using glycerin pitch, aluminium sulphate, and sulphuric acid.

***1867. Fitzgerald, F. C.** 346824. 1921.

Aus., 1922, p. 408; Wag. Jahr., 1922, Jahrg. 68, Teil 2, p. 492.

Lithographic ink. To ordinary printers' or lithographic ink adds glycerin, calcium chloride, potassium phosphate, carbolic acid, and thickener.

1868. Schiffmann, J. 347826. 1920.

Aus., 1922, p. 584; Wag. Jahr., 1922, Jahrg. 68, Teil 2, p. 496; Chem. tech. Übers., 1922, Jahrg. 46, p. 156; Lange, v. 3, p. 213.

Stamping ink. Anilin black, alcohol, iron-tannic salts, acetin, lampblack.

***1868a. Chemische Fabriken Worms, A. G.**
347902. 1917.

Aus., 1922, p. 670; Lange, v. 3, p. 205.
Double-tone printing inks using mineral oil acids. See also addition (no. 354081, 1917, Aus., 1922, p. 2139).

***1869. Ruetgerswerke A. G., and H. TEICHMANN.** 348685. 1920.

Aus., 1922, p. 1811; Wag. Jahr., 1922, Jahrg. 68, Teil 2, p. 496.

Printers' black ink pigment described in D. R. P. no. 320056, made from tar oil derived from wood, peat, straw, cotton, or other fibrous material.

***1870. Actien-Gesellschaft für Anilin-Fabrikation.** 349924. 1920.

Wag. Jahr., 1922, Jahrg. 68, Teil 2, p. 496; J.S.C.I., 1923, v. 42, p. 667a; Chem. tech. Übers., 1922, Jahrg. 46, p. 211; Cent., 1923, Jahrg. 94, Teil 1, p. 1031; Lange, v. 3, p. 206.

Printing and stamping ink using cyclohexanol and its homologues, with nigrosin, lampblack, and glycerin.

***1871. Eyrich, H. R., and J. A. SCHREIBER.**
353024. 1921.

Aus., 1922, p. 2001; Wag. Jahr., 1922, Jahrg. 68, Teil 2, p. 407; Chem. tech. Übers., 1922, Jahrg. 46, p. 266.

De-inking process.

1872. Plauson's Forschungsinstitut G.m.b.H. 355117. 1921.

Wag. Jahr., 1922, Jahrg. 68, Teil 2, p. 492; J.S.C.I., 1922, v. 41, p. 826a.

Colloidal ink and india ink. Insoluble colored mineral substances are ground with soluble organic dye-stuffs and a protective colloid in a Plauson colloidal mill.

1873. Molar, C. 356120. 1919.

Aus., 1922, p. 2662; Wag. Jahr., 1922, Jahrg. 68, Teil 2, p. 493; Chem. tech. Übers., 1922, Jahrg. 46, p. 318; Lange, v. 3, p. 226.

Concentrated liquid ink. Concentrated color, gum arabic, phenol or salicylic acid, water, ferro-sulphate, tannic acid, hydrochloric or acetic acid.

***1874. Smidt, K. J., and R. JAEGER.**
360336. 1921.

Aus., 1922, p. 3611; Wag. Jahr., 1922, Jahrg. 68, Teil 2, p. 497; Cent., 1923, Jahrg. 94, Teil 1, Tech. Teil, p. 751; Chem. tech. Übers., 1924, Jahrg. 48, p. 168.

Black and colored printers' inks from sulphite waste liquor.

1875. Schmitz, W. 364077. 1921.

Aus., 1923, p. 123; Wag. Jahr., 1922, Jahrg. 68, Teil 2, p. 493; Cent., 1923, Jahrg. 94, Teil 1, Tech. Teil, p. 1154; Chem. tech. Übers., 1924, Jahrg. 48, p. 168.

Ink tablets. Anilin green, milk sugar, cane sugar.

***1876. Ruetgerswerke A. G.** 364830. 1920.

Aus., 1923, p. 288; J.S.C.I., 1923, v. 42, p. 614a; Wag. Jahr., 1922, Jahrg. 68, Teil 2, p. 497; Cent., 1923, Jahrg. 94, Teil 1, Tech. Teil, p. 751; Chem. tech. Übers., 1924, Jahrg. 48, p. 168; 1925, Jahrg. 49, p. 72.

Black printing colors. Resins from tars or tar oils treated with oxygen; or by sulphurizing; or by simple heating; or by combination of these processes.

Patents—Germany, continued.

- *1877. **Wiegandt, C.** 367363. 1920.
Aus., 1923, p. 2216; Cent., 1923, Jahrg. 94, Teil 2, Tech. Teil, p. 588; Wag. Jahr., 1923, Jahrg. 69, Teil 2, p. 430; Chem. tech. Übers., 1924, Jahrg. 48, p. 168.
Writing and printing ink for metal surfaces. Oil or lake color with addition of hydrochloric acid.
- *1878. **Ruetgerswerke A. G.** 367495. 1920.
Aus., 1923, p. 817; J.S.C.I., 1923, v. 42, p. 731a; Cent., 1923, Jahrg. 94, Teil 1, Tech. Teil, p. 1091; Wag. Jahr., 1923, Jahrg. 69, Teil 2, p. 446; Chem. tech. Übers., 1924, Jahrg. 48, p. 88.
Black printing colors obtained by adding catalysts to the products described in D. R. P. no. 364830.
- *1879. **Farbwerke vorm. Meister Lucius & Brüning.** 375883. 1921.
Aus., 1923, p. 1985; J.S.C.I., 1923, v. 42, p. 988a; Wag. Jahr., 1923, Jahrg. 69, Teil 2, p. 446; Cent., 1923, Jahrg. 94, Teil 2, Tech. Teil, p. 331; Chem. tech. Übers., 1924, Jahrg. 48, p. 100.
Printing and lithographic inks, replacing oleic acid by ethylenethiodiglycol.
- *1880. **Plauson's Forschungsinstitut.** 378384. 1922.
Aus., 1923, p. 2309; Chem. tech. Übers., 1925, Jahrg. 49, p. 56; Cent., 1923, Jahrg. 94, Teil 2, Tech. Teil, p. 367; Wag. Jahr., 1923, Jahrg. 69, Teil 2, p. 440.
Printers' inks. Finely divided color in oil, with organic solvent, as alcohol, ketons, esters, or ether.
1881. **Wegener, J.** 382502. 1921.
Aus., 1923, p. 2763; Cent., 1923, Jahrg. 94, Teil 2, Tech. Teil, p. 1032; Wag. Jahr., 1923, Jahrg. 69, Teil 2, p. 448; Chem. tech. Übers., 1925, Jahrg. 49, p. 56.
Ink tablets. Ordinary colors mixed with tannic acid and iron salts with addition of milk sugar.
- *1882. **Immerwahr, P.** 382503. 1922.
Aus., 1923, p. 2763; Cent., 1923, Jahrg. 94, Teil 2, Tech. Teil, p. 1017; Wag. Jahr., 1923, Jahrg. 69, Teil 2, p. 361.
De-inking process.
- *1883. **Ruetgerswerke A. G.** 382504. 1921.
Wag. Jahr., 1923, Jahrg. 69, Teil 2, p. 447; Chem. tech. Übers., 1925, Jahrg. 49, p. 260.
Black printing colors. Addition to D. R. P. no. 364830.
- *1884. **Uhde, F.** 382506. 1922.
Aus., 1923, p. 2763; Cent., 1923, Jahrg. 94, Teil 2, Tech. Teil, p. 988; Chem. tech. Übers., 1924, Jahrg. 48, p. 908.
Black printing pigments. Process for direct absorption of lampblack by oils and binding materials.
- *1885. **Ruetgerswerke A. G.** 383922. 1922.
Aus., 1923, p. 2879; Cent., 1924, Jahrg. 95, Teil 1, p. 251; Wag. Jahr., 1923, Jahrg. 69, Teil 2, p. 447.
Black printing colors. Addition to D. R. P. no. 364830.
1886. **Voigt, M.** 388728. 1922.
Aus., 1924, p. 397; Cent., 1924, Jahrg. 95, Teil 1, p. 1308.
Ink remover using fluoride of ammonia.
- *1887. **Farbwerke vorm. Meister, Lucius & Brüning.** 388878. 1921.
Cent., 1924, Jahrg. 95, Teil 1, p. 1111; Chem. tech. Übers., 1925, Jahrg. 49, p. 72.
Double-tone inks using glycerin. Addition to D.R.P. no. 375883.
1888. **Meier, G.** 389165. 1922.
Aus., 1924, p. 457; Cent., 1924, Jahrg. 95, Teil 1, p. 2905.
Transfer ink, using ordinary printers' or lithographic ink, with alum, wood extracts, and vinegar.
1889. **Chemische Fabrik Pharma.** 389833. 1921.
Aus., 1924, p. 511; Cent., 1924, Jahrg. 95, Teil 1, p. 1732; Chem. tech. Übers., 1925, Jahrg. 49, p. 7.
Typewriter ink. Ammonia and zinc salts.
- *1890. **Cajar, H.** 390812. 1923.
Aus., 1924, p. 638; Cent., 1924, Jahrg. 95, Teil 1, p. 1872; Chem. tech. Übers., 1925, Jahrg. 49, p. 76.
Printers' colored inks. Pigments emulsified with varnish; and water removed by vacuum apparatus.
- *1891. **Kuehl, J. F. T.** 391001. 1920.
Aus., 1924, p. 639; Cent., 1924, Jahrg. 95, Teil 1, p. 1872; Chem. tech. Übers., 1925, Jahrg. 49, p. 72.
Printers' ink capable of being washed from paper. Oil-free color in unrefined glycerin, molasses, waste sulphite liquor, or glue solution.
- *1891a. **Gestetener, D., Ltd.** 393271. 1921.
Aus., 1924, p. 910; Chem. tech. Übers., 1925, Jahrg. 49, p. 72.
Printers' ink based on fat-and-water emulsion.
- *1892. **Huber, M., and J. HUBER.** 394600. 1921.
Aus., 1924, p. 1058.
Printers' ink. Water-glass, coal tar color, coal tar lacquer, or lampblack.
- *1893. **Bourcet, P., and H. REGNAULT.** 396071. 1922.
Aus., 1924, p. 1233.
De-inking process.
- *1894. **Badische Anilin & Soda Fabrik.** 397219. 1923.
Aus., 1924, p. 1373; Cent., 1924, Jahrg. 95, Teil 2, p. 1653.
Substitution of 1,3. butylenglycol for glycerin in printers' ink.
- *1895. **Seidler, P.** 399764. 1922.
Aus., 1924, p. 1657.
Printers' inks. Color and sulphite waste liquor.

Patents—Germany, continued.

*1896. **Chemische Fabrik Dr. Groppe & Co.** 400211. 1922.

Aus., 1924, p. 1726.

Printing blacks from acid tars produced in the refining of petroleum.

*1897. **Seidler, P.** 400976. 1922.

Aus., 1924, p. 1781.

Printers' inks from sulphite waste liquor.

*1898. **Alchemic Gold Co.** 401057. 1923.

Aus., 1924, p. 1840.

Printers' metallic ink, especially for book bindings. Metal powder with binder of neutralized resin or resin ester.

1899. **Indelible Coloration Corporation.**

401058. 1923.

Aus., 1924, p. 1840.

Ceramic ink.

*1900. **Ruffert, G.** 401145. 1922.

Aus., 1924, p. 1862.

De-inking process.

*1901. **Alchemic Gold Co.** 402171. 1922.

Aus., 1924, p. 1968.

Quick-drying printers' ink for book-bindings. Melting point of solvent lies between 200° and 300° C.

1902. **Cajar, H.** 402172. 1924.

Aus., 1924, p. 1968.

Black pigment. Oxidation of anilin salt with chromates and copper sulphate.

1903. **Chemische Fabrik Dr. Adolf Heine-mann.** 402313. 1922.

Aus., 1924, p. 1968.

Stamping ink. Adds sulphated oil to ordinary inks.

*1904. **Walther, B.** 402727. 1922.

Aus., 1924, p. 2022.

Safety printers' ink. Substitutes part of water of ordinary writing ink by thickener and indicator.

1905. **Chemische Fabrik Pharma.**

404263. 1923.

Aus., 1924, p. 2209.

Typewriter ribbon colors from ammoniacal compounds.

CANADA

Library has abstracts only.

1906. **Carter, J. W.** 1844. 1872.

Pat. O. R., v. 1, p. 16.

Writing ink. Method of introducing air into liquid.

*1907. **Foley, J.** 2946. 1873.

Pat. O. R., v. 1, p. 208.

Machine for making tanning extracts for printers' mordants.

1908. **Sjöström, L. G.** 9239. 1878.

Pat. O. R., v. 6, p. 156.

Copying ink with gum arabic and glycerin.

1909. **Girdwood, G. P.** 9828. 1879.

Pat. O. R., v. 7, p. 66.

Safety paper and ink. Carbon base not affected by alkalies.

1910. **Jacobs, J. M.** 10244. 1879.

Pat. O. R., v. 7, p. 130.

Copying ink. Gelatin, glycerin, water, and whitening.

*1911. **Hooker, Le R.** 11630. 1880.

Pat. O. R., v. 8, p. 156.

Printers' ink. Coal tar, lampblack, and camphor.

*1912. **Grant, J. B., and T. BARFOOT.** 17065. 1883.

Pat. O. R., v. 11, p. 213.

Safety printers' ink. Color, magnesia, anilin dye, copper sulphate, alum, litharge, and varnish.

*1913. **Stanchfield, G. M.** 25493. 1886.

Pat. O. R., v. 15, p. 6.

Inkoleum for softening printers' ink. Kerosene, ether, sassafras oil, oil of cloves.

*1914. **Zenolite Manufacturing Co.**

33544-45. 1890.

Pat. O. R., v. 18, p. 44.

Printers' ink. Maltha and pigment.

*1915. **Holt, O. G.** 34510. 1890.

Pat. O. R., v. 18, p. 326.

Printers' and lithographic ink. Uses residue from petroleum distillation.

*1916. **Ogilvy, D. J.** 57371. 1897.

Pat. O. R., v. 25, p. 1005.

Printers' ink. Black pigment, oils or resinous material, subjected to high pressure or superheated steam.

1917. **Lichtentag, I., and others.**

65605. 1900.

Pat. O. R., v. 28, p. 4.

Writing ink. Process of mixing finely divided carbon and soap.

*1918. **Ogilvy, D. J.** 70609. 1901.

Pat. O. R., v. 29, p. 396.

Printers' ink. Process of heating.

*1919. **Wass, A. G.** 80613. 1903.

Pat. O. R., v. 31, p. 828.

Printers' ink and varnish. Heavy mineral oil, resin, and color.

*1920. **Duncan, G. S., and G. H. POTTS.** 97728-31.

Pat. O. R., 1907, v. 34, p. 558.

Composition to prevent set-off. Numerous claims embracing volatile and non-volatile oils and soap.

*1921. **Hopkins, M. S., and C. R. BARNETT.** 121093-94. 1909.

Pat. O. R., v. 37, p. 2612-2613.

Process for recovering ingredients of oily inks.

1922. **Downie, J.** 129627. 1910.

Pat. O. R., v. 38, p. 3502.

Writing ink. Ether, wood alcohol, water, and color.

Patents—Canada, continued.

1923. **Werner, E. W.,** and others.
130421. 1911.

Pat. O. R., v. 39, p. 100.

Writing ink. Prussian blue, yellow prussiate of potassium, ammonium, and a liquid solvent.

1924. **Hochstetter, R.** 134555. 1911.

Pat. O. R., v. 39, p. 2376.

Ink for wax stencil sheet. Pigment ground in glycerin and sulphonated oil.

1925. **Hochstetter, R.** 136422. 1911.

Pat. O. R., v. 39, p. 3358.

Mimeograph ink. Inorganic pigment, glycerin, and sulphonated oil.

*1926. **Meixell, W. B.,** and others.

143339. 1912.

Pat. O. R., v. 40, p. 3257.

De-inking process.

1927. **Owens, C.** 147196. 1913.

Pat. O. R., v. 41, p. 1163.

Re-inking device for typewriter ribbons.

1928. **Schmidt, E. E.** 166100. 1915.

Pat. O. R., v. 43, p. 3490.

Writing ink. Aqueous solution of nigrosin, carbon, sodium hydrate, and glue.

*1929. **Welsh, J.** 169743. 1916.

Pat. O. R., v. 44, p. 1585.

De-inking process.

*1930. **Putman, F. A.** 176288. 1917.

Pat. O. R., v. 45, p. 1081.

Printers' ink. Gum, oil, metallic and non-metallic pigments. Ink makes light impression on dark goods, and dark impression on light goods.

1931. **Archibald, C. F.** 178908. 1917.

Pat. O. R., v. 45, p. 2510.

Machine for inking typewriter ribbons.

*1932. **Roko Manufacturing Co.**

182303. 1918.

Pat. O. R., v. 46, p. 449.

Printers' ink. Petrolatum, magnesium carbonate, and sodium silicate.

1933. **Jeanmaire, L.** 191080. 1919.

Pat. O. R., v. 47, p. 992.

Indelible ink. Logwood extract, potassium bichromate, alum, nut galls, gum arabic, silver nitrate, and water.

1934. **Holder, W. E.,** and **G. L. CATCHPOLE.**
194292. 1919.

Pat. O. R., v. 47, p. 2081.

Safety writing ink. Water soluble ferrocyanid color, a solution maintaining ingredient, epsom salts, and turkey red oil.

*1935. **The Newsprint Reclaiming Corporation.** 196164. 1920.

Pat. O. R., v. 48, p. 142.

De-inking process.

1936. **Tsutsumi, M.** 200825. 1920.

Pat. O. R., v. 48, p. 1558.

Solid ink. Logwood, galls, sodium salicylate, gum arabic, dyestuff, potassium ferrous tartrate.

*1937. **Jespersen Paper Co.** 203587. 1920.

Pat. O. R., v. 48, p. 2385.

De-inking process.

*1938. **Osborne, W. M.** 204398. 1920.

Pat. O. R., v. 48, p. 2635.

De-inking process.

1939. **Olsen, J. C.** 206070. 1920.

Pat. O. R., v. 48, p. 3157.

Ink stick. Water soluble anilin dye, graphite, and dextrin.

1940. **Marvin, P. B.,** and **J. C. PHELAN.**
207058. 1921.

Pat. O. R., v. 49, p. 3.

Device for refreshing typewriter ribbons.

*1941. **Fitzgerald, F. C.** 215783. 1922.

Pat. O. R., v. 50, p. 280.

Lithographic ink. Additive for lithographic ink. Glycerin, calcium chloride, potassium phosphate, carbolic acid, and liquid gum.

1942. **Conney, F. B.** 230996. 1923.

Pat. O. R., v. 51, p. 1108.

Ink paste, water, dextrin, gallic acid, ferrous sulphate, carbolic acid, glycerin, anilin blue, indigotin, and acetic acid.

1943. **Doughty, H. W.** 233933. 1923.

Pat. O. R., v. 51, p. 2067.

Metallic ink. Metallic pigment, resin, terpeneol, and solvents.

*1944. **The Alchemic Gold Co.**
234014. 1923.

Pat. O. R., v. 51, p. 2091.

Printers' ink. Coumaron resin, terpeneol, resin oil, metallic powder.

1945. **Spensley, J. W.** 234817. 1923.

Pat. O. R., v. 51, p. 2360.

High speed centrifugal disk mill.

1946. **Dick, A. B., Co.** 236471. 1923.

Pat. O. R., v. 51, p. 2916.

Writing ink using color, sulphonated oil, resin oil, green soap.

1947. **Hope, E.** 236675. 1923.

Pat. O. R., v. 51, p. 2981.

Writing ink. Prussian blue, phenol, water, and color.

*1948. **The Alchemic Gold Co.**
237060. 1924.

Pat. O. R., v. 52, p. 125.

Printers' ink. Resin ester, neutral solvent, and metallic pigment.

1949. **Schmidt, E. E.** 237584. 1924.

Pat. O. R., v. 52, p. 308.

Writing ink. Spirit of soluble black, mirbane oil, carbolic acid, turkey red oil.

1950. **Cappon, T. W.,** and **H. S. MacKAYE.**
242305. 1924.

Pat. O. R., v. 52, p. 1865.

Single fluid ink eradicator using alkaline metaphosphate.

AUSTRALIA

The Library has abstracts only.

- *1951. Fireman, P. 4418. 1905.
Aus. off. jour., 1907, p. 58.
Printing ink pigments. No abstract.
- *1952. Fireman, P. 5040. 1906.
Aus. off. jour., 1906, p. 28.
Printing ink pigments. No abstract.
1953. Lamp'l, R., and P. J. LAMP'L.
17506. 1910.
Aus. off. jour., 1910, p. 915.
Anti-forgery ink.
1954. Child, R. C., and J. JOHNSTON.
17545. 1910.
Aus. off. jour., 1910, p. 1076.
Apparatus for powdering coal, jet, or shale.
- *1955. Burby, J. M. 5158. 1912.
Aus. off. jour., 1913, p. 779.
Recovery of waste paper.
- *1956. Burby, J. M. 9207. 1913.
Aus. off. jour., 1913, p. 787.
Recovery of waste paper.
1957. Tsutsumi, M. 13377. 1919.
Aus. off. jour., 1921, p. 255.
Solid ink. Logwood, galls, sodium salicylate, gum arabic, potassium ferrous tartrate, dye.
- *1958. Eyrich, H. R., and J. A. SCHREIBER.
2092. 1920.
Aus. off. jour., 1921, p. 1479.
De-inking process.
- *1959. Fraser, N. G. 4415. 1920.
Aus. off. jour., 1922, p. 1342.
Safety ink for preventing removal of obliteration marks from prepayment stamps. Pyrogallic acid, ferrous sulphate, ferric perchloride, glycerin, water.
1960. Quigg, W. J. 18990. 1920.
Aus. off. jour., 1921, p. 1044.
Branding ink. Residue from eucalyptus distillation, and soap.
- *1961. Fitzgerald, F. C. 3163. 1921.
Aus. off. jour., 1922, p. 264.
Lithographic ink. Glycerin, calcium chloride, potassium phosphate, carbolic acid, gum, litho ink.
1962. Spensley, J. W. 11495. 1922.
Aus. off. jour., 1923, p. 625.
Disk mill.

NEW ZEALAND

The Library has abstracts only.

1963. Levinge, H. M., and J. LEVINGE.
12033. 1899.
Gaz., 1899, p. 1915.
Writing ink using wood distillate.
1964. Stewart, W. 14525. 1902.
Gaz., 1902, p. 467.
Copying ink. Ordinary ink and glycerin.
- *1965. Wass, A. G. 15169. 1902.
Gaz., 1902, p. 1677.
Printers' varnish. Mineral oil, resin, black or color.
- *1966. Child, R. C. 29883. 1911.
Gaz., 1911, p. 2876.
Printers' ink. Pitch, powdered coal, or shale.
- *1967. Harris, P. L. 30128. 1911.
Gaz., 1911, p. 3320.
Ink for printing on soap. No abstract.

BELGIUM

The Library has abstracts only.

1968. Mailleux, J. J., and H. MAILLEUX.
1855.
Rec., v. 1, p. 936.
Ink to outline design in glass and metal gilding. Cobalt oxide, magnesia, gum copal, ambergris, iron rust.
1969. Léonhardi, A. 1856.
Rec., v. 2, p. 492; Ding., 1856, Jahrg. 142, p. 141; Poly. Cent., 1856, Jahrg. 22, p. 1472.
Alizarin writing ink. Gall-nuts, madder, water, indigo, iron sulphate, pyro-acetate or pyrolignite of iron.
- *1970. Rousselle, L. 1856.
Rec., v. 2, p. 613.
Printers' ink. Lampblack, linseed oil, aqua regia, silver nitrate.
1971. Wurden, J. 1858.
Rec., v. 4, p. 455.
Stamping ink. Blue mineral color, linseed oil, olive oil, sulphate of magnesia, turpentine.
1972. Delhousse, V. 6728. 1858.
Rec., v. 5, catégorie 5, p. 142.
Non-corrosive writing ink. Adds a salt of copper, silver, or zinc to ordinary ink.

Patents—Belgium, continued.

- *1973. Viette, P. A.** 6871. 1858.
Rec., v. 5, catégorie 5, p. 152; Wag. Jahr., 1859, Jahrg. 5, p. 541.
Lithographic ink. Gutta-percha or rubber; stearin, tallow, or wax; black color; turpentine; bitumen, varnish.
- *1974. Lekieffre, X.** 6891. 1859.
Rec., v. 5, catégorie 5, p. 161.
Black for printers' ink. Obtained in distillation of cannel coal.
- 1975. Ballande, J. A. H.** 7159. 1859.
Rec., v. 5, catégorie 6, p. 94.
Safety writing inks. Gum water, prussiate of soda or of potassium, hyposulphite of soda.
- 1976. Dunn, A.** 7629. 1859.
Rec., v. 5, catégorie 5, p. 336.
Marking inks. White wax, stearin, graphite, vermilion, silver nitrate.
- 1977. Ballande, J. A. H.** 8610. 1860.
Rec., v. 7, catégorie 6, p. 31.
Copying ink using alum and sodium hyposulphite.
- 1978. Moolen, H. van der.** 10505. 1861.
Rec., v. 8, catégorie 5, p. 80.
Copying ink in paste form. Campeachy wood, iron sulphate, water, sulphuric acid, indigo, and thickener.
- 1979. Croc, L.** 11797. 1861.
Rec., v. 8, catégorie 5, p. 325.
Indelible ink. Anilin, lampblack, thickener, and acid.
- 1980. Nadaud, A. J.** 12309. 1862.
Rec., v. 9, catégorie 5, p. 73.
Red, violet, blue, or green writing ink based on fuchsin or anilin.
- *1981. Steinert, D.** 13221. 1862.
Rec., v. 9, catégorie 5, p. 230.
Printers' ink varnish, substituting petroleum for linseed oil.
- 1982. Lundgren, J. E.** 14721. 1863.
Rec., v. 10, catégorie 5, p. 254.
Process for powdering mineral and vegetable carbon.
- *1983. Hulot, A. A.** 17453. 1865.
Rec., v. 12, catégorie 5, p. 62.
Printers' ink. Honey, glycerin, and colors.
- 1984. Racquet, E.** 20040. 1866.
Rec., v. 13, catégorie 5, p. 195.
Sympathetic ink. Sulphate of copper, prussiate of potassium.
- *1985. Rave, C.** 20226. 1866.
Rec., v. 13, catégorie 5, p. 276.
Printers' black ink. Anilin salt, potassium chlorate or other oxydizing agent.
- *1986. Kircher, J., and E. EBNER.** 26102. 1869.
Rec., v. 16, catégorie 5, p. 139.
Printers' ink. Iron oxide, tannic or gallic acid, and varnish.
- *1987. Hodges, J. F.** 31093. 1872.
Rec., v. 19, catégorie 6, p. 55.
Safety paper and printers' ink. Ordinary writing ink thickened with amidon or gum.
- 1988. Lebel, A.** 32072. 1873.
Rec., v. 20, catégorie 6, p. 25.
Sympathetic ink. Ferro-cyanid of potassium used as ink for paper impregnated with iron salt.
- 1989. Suyckerbuyk, G., and J. G. KONING.** 32989. 1873.
Rec., v. 20, catégorie 5, p. 171.
Writing ink. Gall nuts, alcohol, iron sulphate, gum arabic, water, and vanadium salt.
- 1990. Soupart, G. E.** 33255. 1873.
Rec., v. 20, catégorie 5, p. 187.
Writing ink. Water, fuchsin or anilin color, sugar or gum arabic.
- *1991. Persoz, J., and A. JEANNOLLE.** 33785. 1873.
Rec., v. 20, catégorie 5, p. 250.
Printers' ink. Based on coal tar.
- *1992. Daguzan, J. P.** 34189. 1874.
Rec., v. 21, catégorie 5, p. 65.
Printers' ink based on gutta-percha or india rubber.
- *1993. McIlvaine, C. M.** 34344. 1874.
Rec., v. 21, catégorie 5, p. 69.
Printers' ink resembling effects of writing ink. Water-soluble colors and gums.
- 1994. Gaffard, P. A.** 34713. 1874.
Rec., v. 21, catégorie 5, p. 128.
Indelible ink. Finely divided carbon in alkaline silicate.
- *1995. Platel, L. J.** 35917. 1874.
Rec., v. 21, catégorie 5, p. 252.
Black printers' ink. Tannin, glycerin, thyme, gums, glucose, iron compounds.
- *1996. Pourbaix, A.** 36736. 1875.
Rec., v. 22, catégorie 5, p. 112.
Fatty ink based on cyanid of iron.
- 1997. Roussel, E., and GERVAIS-ROUSSEL.** 38722. 1876.
Rec., v. 23, catégorie 5, p. 40.
Ink tablets. Campeachy extract, water, sulphate of iron, alum, sumac.
- 1997a. Joly, A.** 42374. 1877.
Rec., v. 24, catégorie 5, p. 94; Ber., 1879, Jahrg. 12, Teil 1, p. 209; Wag. Jahr., 1879, Jahrg. 25, p. 1097.
Non-corrosive writing ink. Alkalies, borates, alkaline phosphates, color, sugar (or gum arabic).
- 1998. Zipperer Frères.** 45523. 1878.
Rec., v. 25, p. 124.
Grinding device for india ink.
- 1999. Bertrand-Fery, H.** 47802. 1879.
Rec., v. 26, catégorie 5, p. 53.
Violet and blue writing inks. Anilin, sugar, glue, vinegar, juniper juice, and water.

Patents — Belgium, continued.

*2000. Wilhelm, J. J., and F. ROHNSTADT.
50113. 1879.

Rec., v. 26, catégorie 5, p. 243.

Printers' ink. Tar oil, sulphuric acid, calcined soda.

2001. Ronnen, J. F. 50852. 1880.

Rec., v. 27, catégorie 5, p. 84.

Hectograph ink. No recipe given.

*2002. Gunther, H. 51725. 1880.

Rec., v. 27, catégorie 5, p. 160.

Black printers' ink. Pitch or asphalt, tar oil, anilin violet, sebacic acid, resin oil.

2003. Mohr, C. 51863. 1880.

Rec., v. 27, catégorie 5, p. 164.

Ink paste for stamping letters. Glycerin, water, anilin color, glue.

2004. Gruenwald, L. 54021. 1881.

Rec., v. 28, catégorie 5, p. 66.

Copying ink. Acetate of uranium, molasses, glycerin.

*2005. Brackebusch, H. 54141. 1881.

Rec., v. 28, catégorie 5, p. 70.

Printers' ink. Carbon, paraffin, resin.

*2006. Gunther, H. 55058. 1881.

Rec., v. 28, catégorie 5, p. 209.

Printers' ink. Pitch or asphalt, anthracene oil, copper chloride, black soap, fish oil, and alcohol.

2007. Magne, J. J. 55541. 1881.

Rec., v. 28, catégorie 5, p. 220.

Drawing and writing ink. Albumin, bichromate, alum, ferro-cyanid of potassium.

*2008. Reissig, G. 57106. 1882.

Rec., v. 29, catégorie 5, p. 68.

Indelible writing, stamping and printers' inks. Linseed oil varnish with iron salts.

*2009. Schmidt Frères. 58353. 1882.

Rec., v. 29, catégorie 5, p. 199.

Printers' and stamping ink. Linseed oil, oxide of manganese.

*2010. Schmidt Frères. 59863. 1882.

Rec., v. 29, catégorie 5, p. 294.

Stamping and printers' ink. Oxide of manganese.

*2011. Nesbit, A. A. 60543. 1883.

Rec., v. 30, catégorie 5, p. 66.

Printers' ink for postage stamps, checks, etc. Uses anchusin or orcanin.

2012. Gigot, R. 79606. 1887.

Rec., v. 35, catégorie 5, p. 384.

Stamping ink. Linseed oil, ultramarine blue, lamp-black, camphor, nitrobenzol.

2013. Outhenin, Chalandre, fils, et Cie.
80927. 1888.

Rec., v. 36, catégorie 5, p. 40.

Safety paper. Ferrocyanid of potassium, manganese and nickel salts.

2014. Charrier, P., and E. DUBUCQ.
85626. 1889.

Rec., v. 37, catégorie 5, p. 172.

Copying writing ink. Sugar cane solution and glycerin added to ordinary ink.

2015. Dimitry, C. P. 86567. 1889.

Rec., v. 37, catégorie 5, p. 194.

Indelible non-corrosive ink. Water, gelatin, bichromate of potassium, black anilin powder, and creosote.

*2016. Hubert-Magis, E. 88855. 1889.

Rec., v. 37, catégorie 5, p. 376.

Lithographic ink. Lampblack, linseed oil, resin, wax, and black soap.

2017. Muller, W. 89876. 1890.

Rec., v. 38, catégorie 5, p. 74.

Ink paste. Black color, dextrin, glycerin.

2018. Coën, E. 93819. 1891.

Rec., v. 39, catégorie 5, p. 70.

Copying ink. Sugar and glycerin added to writing ink.

2019. Chantraine, J. A. 94524. 1891.

Rec., v. 39, catégorie 5, p. 149.

Copying ink used without water or press.

2020. Genzsch, A., and E. R. KLIMOSCH.
94577. 1891.

Rec., v. 39, catégorie 5, p. 151.

Marking ink. Pyrolusite and coal tar colors.

2021. Bobeau et Fleuriau. 97360. 1891.

Rec., v. 39, catégorie 6, p. 99.

Paper impregnated with tannin makes characters indelible.

2022. Société Marillier et Robellet.
97737. 1891.

Rec., v. 39, catégorie 5, p. 353.

Process for strengthening and clarifying wood extracts.

*2023. Higgins, C. M. 97830. 1892.

Rec., v. 40, catégorie 5, p. 71.

Printers' and stamping ink. Oil, carbolic acid or creosote, castor oil, color.

*2024. Castaneda, J. 98910. 1892.

Rec., v. 40, catégorie 5, p. 92.

Process for recovery of printers' ink from cleaning cloths.

2025. Verstuyft, J. 106150. 1893.

Rec., v. 41, catégorie 5, p. 259.

Blue-black writing ink. Water, gall-nuts, alum, Fernambouc wood, oxalic acid, salicylic acid, acetic acid.

*2026. Bibby, J., and J. BIBBY.
105607. 1893.

Rec., v. 41, catégorie 5, p. 248.

Printers' ink based on cotton seed foots.

2027. Bourlez, V. 112407. 1894.

Rec., v. 42, catégorie 5, p. 375.

Concentrated ink. Hematin, bichromate of potassium, hydrochloric acid, water.

2028. Nienstaedt, E., and L. GOLDMARK.
108608. 1894.

Rec., v. 42, catégorie 5, p. 87.

Solid ink. Non-porous powder immersed in ordinary ink and dried.

Patents—Belgium, continued.

- 2029. Weyter et Cie.** 116396. 1895.
Rec., v. 43, catégorie 5, p. 303.
Hectographic ink. Glue, water, glycerin, white bole, and amidon.
- 2030. Grawitz, W. J. S.** 127918. 1897.
Rec., 1897, p. 690.
Indelible writing ink. Anilin, hydrochloric acid, acetate of soda, manganese chloride, perchloride of iron, sodium chlorate.
- *2031. Gentile, E. O. S., and H. R. GENTILE.** 128209. 1897.
Rec., 1897, p. 690.
Printers' ink. Wood powder, wood pulp, or cellulose impregnated with color.
- 2032. Grawitz, W. J. S.** 130910. 1897.
Rec., 1897, p. 1516.
Marking ink. Anilin base.
- *2033. Dordtsche Petroleum Maatschappij.** 131362. 1897.
Rec., 1897, p. 1664.
Printers' ink using Grisee oil.
- *2034. Taylor, F. C., and H. H. KINLOCH.** 132443. 1897.
Rec., 1897, p. 1833.
Improvement in printers' ink to facilitate its distribution. Copaiba balsam, glycerin, santal oil, petroleum, pine balsam, turpentine, manganese, ether, chloroform, ammonia.
- 2035. Henry, C.** 135996. 1898.
Rec., 1898, p. 856.
Copying ink not requiring moistening of paper. Uses phenol substances.
- 2036. Lichtentag, I., and A. LICHTENTAG.** 139169. 1898.
Rec., 1898, p. 1820.
Writing ink. Carbon, soap and water.
- *2037. Ritter, A.** 145453. 1899.
Rec., 1899, p. 1588.
Lithographic varnish. Linseed oil, resin, lard, turpentine.
- 2038. Brandel, F. de, and A. DE BAUDRY d'ASSON.** 156145. 1901.
Rec., 1901, p. 612.
Manufacture of colors from heavy mineral oils and tars.
- *2039. Wass, A. G.** 163937. 1902.
Rec., 1902, p. 777.
Printers' ink. Mineral oil, resin, and color.
- *2040. Wass, A. G.** 164124. 1902.
Rec., 1902, p. 962.
Varnish for printers' ink. Mineral oil, resin, and color.
- *2041. Meixell, W. B., and T. HOLT.** 174572. 1903.
Rec., v. 51, p. 1782.
De-inking process.
- 2042. Laffon, A. O.** 180499. 1904.
Rec., v. 52, p. 1545.
Copying ink. Color, glycerin, thickener, and pyrogalllic acid.
- 2043. Coterillo y Ojeda, F., and R. J. QUESADA.** 185107. 1905.
Rec., v. 53, p. 853.
Copying ink. Glycerin and syrup added to ordinary ink.
- *2044. Fireman, P.** 187298. 1905.
Rec., v. 53, p. 1499.
Pigment for printers' inks. Replaces carbon black with iron oxides.
- *2045. Fireman, P.** 189125. 1905.
Rec., v. 53, p. 1880.
Pigment for printers' inks and process for manufacture. Based on iron oxides.
- *2046. Plantrou, A. A.** 193435. 1906.
Rec., v. 54, p. 1124.
De-inking process.
- *2047. Herz, L.** 212200. 1908.
Rec., v. 56, p. 2119.
De-inking process.
- 2048. Hochstetter, R.** 217708. 1909.
Rec., v. 57, p. 1175.
Mimeograph ink. Color ground with glycerin.
- *2049. Child, R. C., and J. JOHNSTON,** 224372. 1910.
Rec., v. 58, p. 717.
Lithographic and printers' ink.
- *2050. Petsche, B. W.** 225209. 1910.
Rec., v. 58, p. 954.
De-inking process.
- *2051. Child, R. C.** 236923. 1911.
Rec., v. 59, p. 1455.
Printers' ink. Tar, pitch, and pulverized coal or schist.
- *2052. Kurtz-Haehnle, C.** 240911. 1911.
Rec., v. 59, p. 2551.
De-inking process.
- *2053. Wolff, M.** 260401. 1913.
Rec., v. 61, p. 2112.
Printers' ink. Peat and vegetable black in hot solution of alkaline silicates, and mixed with oils.
- 2054. Bramson, K.** 282826. 1919.
Rec., v. 67, p. 148.
Bark of the maritime pine as an ink ingredient.
- 2055. Spensley, J. W.** 308591. 1923.
Rec., 1923, p. 52.
Centrifugal grinder.
- 2056. Indelible Coloration Co.** 309224. 1923.
Rec., 1923, p. 99.
Fusible ink. Linseed oil, red lead, bitumen, copaiba balsam, amber oil, acetate of lead, and resin.
- 2057. Dello Ink Corporation.** 310957. 1923.
Rec., 1923, p. 231.
Indelible ink. Aluminium salt, organic acid, alcohol, anilin color.
- *2058. Bourcet, P., and H. REGNAULT.** 318507. 1924.
Rec., 1924, p. 278.
De-inking process.
- *2059. Granton, L. E.** 320364. 1924.
Rec., 1924, p. 426.
De-inking process.

DENMARK

Library has specifications.

- *2060. **Gentele, O. S., and H. R. GENTELE.** 1375. 1898.
Printers' ink. Wood powder, wood pulp, or cellulose, impregnated with color.
2061. **Kretschmann, Ernst.** 3670. 1901.
Sympathetic paper, using cobalt salt.
- *2062. **Wechsler, S.** 4549. 1902.
Lithographic and metal plate ink. Allows continuous printing. Glycerin, carbonate of soda, tartar, turpentine, varnish.
2063. **Fireman, P.** 8878, 9172. 1906.
Preparation of iron oxide pigments.
2064. **Lerman, D.** 9728. 1907.
Pigment from coal or lignite.
2065. **Acheson, E. G.** 11239. 1908.
Process of preparing amorphous substances in finely divided form.
2066. **Machtolf, J.** 12563. 1909.
Apparatus for making amorphous carbon from carbohydrates.
2067. **Debedot, X.** 14607. 1911.
Process of extracting tannins from tannery wastes.
- *2068. **Petsche, B. W.** 15200. 1911.
De-inking process.
- *2069. **Child, R. C.** 15473. 1912.
Printers' ink. Tar and pitch, powdered shale or anthracite.
- *2070. **Colée, P. M. H. L., and J. M. EGMOND.** 18120. 1913.
De-inking process.
- *2071. **Turkin, N. W.** 19459-60. 1914.
Printers' ink. Turkey red oil, alkali, aluminium acetate.
2072. **Berend, L., and K. ALBERT.** 20572. 1915.
Base from condensation products of aldehydes and phenols.
- *2073. **Rebs, H., and H. SPÄTH.** 22873. 1918.
Printers' ink. Based on wastes from mineral and lubricating oils that have been treated with sulphurous acid.
- *2074. **General Waste Paper Recovery Co.** 24794. 1919.
De-inking process.
- *2075. **Chemische Fabriken Worms A. G.** 28895. 1921.
Printers' and stamping ink, using lactates.

SWEDEN

Library has specifications.

2076. **Aktiebolaget Patentpappersfabriken i Penig.** 77. 1885.
Safety paper. Paper impregnated with iron oxide, ferrocyanid and color.
2077. **Aktiebolaget Patentpappersfabriken i Penig.** 188. 1885.
Safety paper using acid solution of chrome salt and indigo salt.
2078. **Olesen, C. J.** 328. 1885.
Process for making lampblack.
2079. **Landström, J. G.** 843. 1886.
Process for making lampblack.
- *2080. **Haake, J.** 3118. 1890.
Printers' ink. Rye and potato starch, and color.
2081. **Tobaksfabriksfirmen Brinck, Hafström & Co.** 3488. 1891.
Stamping ink for tobacco. Iron sulphate, chalk or magnesia, vinegar.
2082. **Flemming, C., and H. DE GROUSILLIERS.** 7072. 1894.
Decalcomania ink. Wax, turpentine, resin oil (or linseed or rape seed oil), color, and varnish.
2083. **Albrecht, F.** 8104. 1896.
Colored ink for glass and other ceramics. Caustic soda, chalk, sodium sulphate, magnesium sulphate (or water glass), and color.
- *2084. **Gentele, E. O. S., and H. R. GENTELE.** 8148. 1896.
Printing color. Wood powder, wood pulp, or cellulose impregnated with color.
2085. **Kretschmann, E.** 10536. 1899.
Sympathetic paper using cobalt salt.
2086. **Kretschmann, E.** 12567. 1900.
Sympathetic paper. Cobalt carbonate, sodium chloride, and dilute acid.
2087. **Haucke H.** 14867. 1901.
Carbon paper.
2088. **Henrik Gahn's Aseptin-Amykos Aktiebolag.** 16676. 1903.
Indelible writing and copying ink. Adds citric acid to ordinary alizarin ink.
2089. **Fireman, P.** 21567. 1905.
Preparation of iron oxides.
2090. **Lerman, D., and others.** 22221. 1906.
Process of making finely divided black pigments from coal.
2091. **Fireman, P.** 24491. 1905.
Process for preparing iron oxides.
- *2092. **Jagenburg, F. G.** 29456. 1910.
Printing ink color.
- *2093. **Chemische Fabriken Dr. Kurt Albert.** 39483. 1915.
Printers' ink base. Emulsification of asphalts, hydrocarbons, etc., with concentrated neutralized sulphite cellulose lye.
2094. **Berend, L., and CHEMISCHE FABRIKEN DR. KURT ALBERT.** 40460. 1916.
Base from condensation products of aldehydes and phenols.
- *2095. **The General Waste Paper Recovery Co.** 51236. 1922.
De-inking process.
- *2096. **Chemische Fabriken Worms A. G.** 51588. 1922.
Doubletone ink. Fatty or oil solution, naphthoic acid, and alizarin color.
2097. **Rosendahl, P. G. V.** 53287. 1922.
Copying writing ink, using glycol.

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The Library has no specifications. Abstracts are contained in Oesterreichischer Patent Blatt (Abbreviation: Ptb.).

- 2098. Kretschmann, E.** 787. 1899.
Ptb., 1899, p. 452; 1900, p. 20.
Sympathetic paper, using cobalt salts.
- *2099. Veal, C. H.** 969. 1899.
Ptb., 1899, p. 505; 1900, p. 120.
Lithographic transfer preparation. Barium sulphate, cinnabar, glycerin, plaster of paris, meal paste, carbolic acid.
- 2100. Kretschmann, E.** 4287. 1900.
Sympathetic ink and paper. Resorcin, paratoluidin, and sulphuric acid.
- *2101. Ferd. Piatnik & Söhne.** 4871. 1901.
Printers' ink varnish. Linseed oil, resin, fat, and turpentine.
- *2102. Wechsler, Simon.** 6437. 1901.
Printers' and lithographic ink. To ink made from varnish and glycerin, adds soda, tartar, and turpentine.
- *2103. Kretschmann, E.** 6664. 1901.
Ptb., 1901, p. 569; 1902, p. 65.
Sympathetic printing ink. (No recipe given.)
- 2104. Kretschmann, E.** 7853. 1901.
Ptb., 1901, p. 793; 1902, p. 403.
Sympathetic paper, using cobalt salt. Addition to Austrian patent no. 787, 1899.
- *2105. Wechsler, S., and E. BAUER.** 8368. 1902.
Ptb., 1902, p. 543.
Printers' and lithographic ink. Addition to no. 6437, 1901.
- *2106. Wass, A. G.** 16457. 1904.
Ptb., 1904, p. 117, 396.
Printers' ink varnish. Mineral oil distillate and resin.
- *2107. Fireman, P.** 27297. 1906.
Ptb., 1906, p. 752, 1000.
Iron oxide pigments for printers' inks.
- *2108. Fireman, P.** 31231. 1907.
Ptb., 1907, p. 618, 942.
Iron oxides for printers' inks.
- *2109. Lerman, D.** 33801. 1907.
Ptb., 1907, p. 437; 1908, p. 529.
Black pigment from coal or lignite.
- *2110. Rudolf Koepp & Co.** 35227. 1908.
Ptb., 1908, p. 467, 849.
Black pigment from coal.
- 2111. Garzino, L.** 37123. 1908.
Ptb., 1908, p. 954; 1909, p. 342.
Sympathetic ink. Ferrocyanid of potassium, graphite, magnesium carbonate, alum, potassium sulphate.
- 2112. Soštarić, M.** 43811. 1910.
Ptb., 1910, p. 334, 746.
Process of fixing markings produced by ink pencil.
- *2113. Henkel & Co.** 46459. 1910.
Ptb., 1910, p. 796; 1911, p. 48.
De-inking process.
- *2114. Louis Kienzle Holzstoff & Pappfabriken.** 48937. 1910.
Ptb., 1910, p. 1214; 1911, p. 514.
De-inking process.
- *2115. Petsche, W.** 53110. 1911.
Ptb., 1911, p. 1052; 1912, p. 345.
De-inking process.
- *2116. Child, R. C.** 54514. 1912.
Ptb., 1912, p. 265, 677.
Printers' ink. Tar or pitch and powdered shale or coal.
- *2117. Schimek, J.** 58833. 1912.
Ptb., 1913, p. 371.
De-inking process. (Abstract not found.)
- *2118. Kurtz-Haehnle, K.** 64671. 1912.
Ptb., 1912, p. 1159; 1915, Teil 2, p. 119.
De-inking process.
- *2119. Lietzenmayer, A.** 64697. 1913.
Ptb., 1913, p. 1166; 1914, Teil 2, p. 220.
De-inking process.
- *2120. Albert, Kurt, and L. BEREND.** 73420. 1916.
Ptb., 1916, Teil 2, p. 296; 1917, Teil 2, p. 72.
De-inking process.
- *2121. Burby, J. M.** 73599. 1916.
Ptb., 1916, Teil 2, p. 245; 1917, Teil 2, p. 101.
De-inking process.
- 2122. Guenther Wagner.** 74132. 1917.
Ptb., 1917, Teil 2, p. 4, 184.
White ink. Zinc or magnesium hydroxide, ammonium salt or lye.
- 2123. Chemische Fabriken Dr. Kurt Albert, and L. BEREND.** 77698. 1918.
Ptb., 1918, Teil 2, p. 168; 1919, Teil 2, p. 168.
Resins from phenols and aldehydes.
- *2124. Abele, W.** 79959. 1919.
Ptb., 1919, Teil 2, p. 203; 1920, Teil 2, p. 23.
De-inking process.
- *2125. Farbwerke vorm. Meister, Lucius & Brüning.** 89795. 1922.
Ptb., 1922, Teil 2, p. 121, 331.
Printers' ink. Water insoluble color and ethylenethiodiglycol (dioxidiäthylsulphid) added to ordinary inks.
- 2126. Tinten-Siegellackfabrik Friedrich Bardeleben.** 93945. 1923.
Ptb., 1923, Teil 2, p. 101, 290.
Effervescent ink tablets. Alkali carbonate, sodium bisulphate and bicarbonate, ammonium carbonate, oxalic acid, metal powder.
- *2127. Eyrich, H. R., and J. A. SCHRIEBER.** 95905. 1921.
Ptb., 1923, Teil 2, p. 325. See also Chemisch-technische Übersicht, 1924, Jahrg. 48, p. 179.
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 Patents, 853, 1433, 1613, 2015, 2023.
 Crucibles, Ink for, 396.
 Cumaron, 388.
 Patents, 1546, 1944.
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 Cyclohexanol:
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Decalcomania ink:
 Patents, 1493, 1630, 1739, 2082.
 De-inking of paper, 31, 108, 128, 135, 183, 185, 197, 198, 214, 251, 258, 297, 319, 327, 364, 392, 407, 408, 468, 494, 504, 511, 514, 563a-564, 605, 654, 688, 697, 698.
 Patents, 930, 970, 991a, 1001, 1004a, 1035, 1061, 1149, 1172, 1289a, 1555, 1623, 1724, 1732, 1736, 1736a, 1742, 1744, 1745, 1745b, 1747, 1750, 1753, 1765, 1767, 1781, 1784, 1792, 1794, 1795, 1798, 1815, 1829, 1833, 1841, 1844, 1844b, 1857, 1871, 1882, 1893, 1900, 1926, 1929, 1935, 1937, 1938, 1955, 1956, 1958, 2041, 2046, 2047, 2050, 2052, 2058, 2059, 2068, 2070, 2074, 2095, 2113-2115, 2117-2121, 2124, 2127.
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 Dinitro-diamino-sulfobenzid:
 Patent, 953a.
 Disazo dyes:
 Patent, 949a.
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 Patents, 1868a, 1887, 2096.
 Drawing ink, 222, 304, 307, 348, 405, 439, 650a.
 Patents, 868, 983a, 1020, 1064, 1571, 1689, 1836, 2007.
 Duplicating machine ink, 138, 192, 222, 307, 335, 348, 389, 439, 569, 615.
 Patents, 920, 950, 957-959, 964, 978, 1015, 1264, 1269, 1348, 1475a, 1487, 1503, 1505, 1526, 1737, 1807, 1821, 1825, 1827, 1838, 1852, 1853, 1924, 1925, 2001, 2029, 2048. *See also* Stencil ink.

E

Effervescent ink:
 Patents, 881, 902, 1388, 2126.
 Elder extract:
 Patent, 1360.
 Electric light bulbs, Coloring:
 Patent, 970b.
 Electric light carbons (Waste), Ink from:
 Patent, 1819.
 Electrical resistance of ink, 20:
 Patents, 936, 988b, 1835.
 Electroplates. *See* Printing plates.
 Embroidery transfer ink:
 Patents, 1284, 1782, 1818a, 1821a.

Emulsification:
 Patents, 981a, 1508, 1551, 1865, 1890, 1891a, 2093.
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 Enamel ink:
 Patent, 1244.
 Engraving ink:
 Patents, 1084, 1124, 1129, 1515, 1642. *See also* Printing plates, Ink for; Copper-plate ink.
 Eosin:
 Patent, 1214.
 Epsom salts:
 Patents, 977, 1533, 1934.
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 Patents, 1880, 1948.
 Etching ink, 72, 148, 439.
 Patents, 1075, 1854.
 Ether:
 Patents, 852, 1117, 1224, 1367, 1451, 1520, 1809, 1817, 1832, 1880, 1913, 1922, 2034.
 Ethylenethiodiglycol:
 Patents, 1879, 2125.
 Eucalyptus oil:
 Patent, 1345.

F

Fading of ink. *See* Printers' ink, Fading; Writing ink, Fading; Restoration of faded ink.
 Fats:
 Patents, 892, 941, 1037, 1098, 1101, 1180, 1217, 1230, 1235, 1238, 1246, 1262, 1295, 1315, 1342, 1350, 1381, 1422, 1463, 1468, 1483, 1549, 1586, 1723, 1772, 1826, 1859, 1891a, 1973, 2037, 2096, 2101.
 Finger-print ink:
 Patents, 941, 953c, 1005, 1028, 1028a, 1756.
 Fire-proof ink:
 Patents, 1167, 1175, 1265, 1697, 1713, 1773. *See also* Printers' ink (Fire-proof); Printers' ink (Non-inflammable).
 Fish oil:
 Patents, 1860a, 2006.
 Flour:
 Patent, 1379.
 Forgeries, 46, 85, 123, 140, 169, 195, 200, 205, 300, 346, 369, 371, 404, 412, 415, 418, 419, 421, 434, 439, 458-460, 520, 549, 614, 716. *See also* Age of writing; Writing ink, Tests.
 Formaldehyde:
 Patents, 998, 1512, 1524, 1530.
 Fountain pen ink, 307.
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 Fullers' earth:
 Patents, 1411, 1455, 1728a.
 Funori:
 Patent, 1008.
 Fusel oil:
 Patent, 1018.

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Galls. *See* Tannins, galls, and iron salts.
 Garlic juice:
 Patents, 753, 1124, 1389, 1801, 1802.
 Gas, Use of, in ink manufacture, 578.
 Gas-black:
 Patent, 1048.
 Gelatin:
 Patents, 751, 824, 849, 853, 952, 1028a, 1160, 1168, 1248, 1250, 1291, 1302, 1313, 1385, 1469, 1579, 1651, 1910, 2015.
 Gelatinization, Prevention:
 Patent, 821.

- Gilsonite:
Patent, 990.
- Ginger:
Patent, 1281.
- Glass, Ink for writing and printing on, 291, 295, 430, 590.
Patents, 1101, 1155, 1195, 1201, 1230, 1418, 1434, 1556, 1600, 1627, 1632, 1968.
- Glass (Powdered) as a pigment:
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- Glass (Soluble), 14.
- Glass (Stained), Ink for imitation:
Patent, 1283.
- Glass-etching ink, 180.
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- Glue:
Patents, 994, 1115, 1248, 1250, 1313, 1382, 1385, 1457, 1481, 1563, 1564, 1568, 1581, 1587, 1599, 1891, 1928, 1999, 2003, 2029.
- Glycerin, 335.
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- Glycerin pitch:
Patent, 1866.
- Glycol:
Patents, 1841a, 1861, 2097.
- Gold chloride:
Patents, 1593, 1606.
- Gold ink, 254, 439, 485, 486, 667, 669.
Patents, 1202, 1801.
- Gold size:
Patents, 1196, 1216, 1368, 1537.
- Grahamite:
Patents, 760, 763.
- Graphite:
Patents, 797, 1083, 1167, 1229, 1439, 1475, 1540, 1748, 1828, 1939, 1976, 2111.
- Graphite (Deflocculated):
Patents, 936, 960, 1472.
- Grisee oil:
Patents, 1391, 1399, 1802a, 2033.
- Gum (Fusible):
Patent, 1525.
- Gum acacia. *See* Gum arabic.
- Gum arabic:
Patents, 746, 753, 765, 799, 809, 811, 870, 882, 902, 923a, 976, 982, 998, 1020, 1032, 1034, 1039, 1060, 1102, 1119, 1124, 1151-1153, 1211, 1212, 1222, 1228, 1254, 1265, 1281, 1291, 1324, 1335, 1343, 1344, 1377, 1388, 1401, 1433, 1466, 1489, 1535, 1558, 1565, 1567, 1569, 1571, 1572, 1576, 1580, 1583, 1588, 1592-1594, 1650, 1773, 1873, 1908, 1933, 1936, 1989, 1990, 1997a.
- Gum copal:
Patents, 739, 1098, 1135, 1156, 1167, 1190, 1298, 1691a, 1968.
- Gum dammar:
Patent, 1286.
- Gum mastic:
Patents, 1091, 1295, 1300, 1468.
- Gum myrrh:
Patents, 746, 1456.
- Gum senegal:
Patents, 742, 1074.
- Gum tragacanth:
Patents, 1103, 1430, 1489, 1529.
- Gums:
Patents, 775, 783, 816, 862, 917, 950a, 961, 964, 996, 1086, 1100, 1117, 1153, 1189, 1224, 1245, 1255, 1290a, 1320, 1365, 1395, 1405, 1434, 1476, 1495, 1523, 1568, 1582, 1586, 1596, 1607, 1615, 1622, 1628, 1650, 1651, 1662, 1663, 1733, 1743, 1745a, 1751, 1930, 1941, 1961, 1975, 1987, 1993, 1995. *See also* names of gums, as: Gum senegal; Gum copal; Shellac; Gum arabic, etc.
- Gutta percha:
Patents, 1084, 1275, 1425, 1973, 1992.

H

- Hair:
Patent, 1146.
- Half-tone ink, 488, 629.
- Hectograph ink. *See* Duplicating machine ink.
- Hemlock:
Patents, 836, 966.
- Henna used in printers' ink:
Patent, 1608.
- Hexamethylenetetramine:
Patent, 1530.
- Hydrochloric acid:
Patents, 819, 863, 1008, 1025, 1157, 1317, 1563, 1564, 1587, 1606, 1780, 1873, 1877, 2027, 2030.
- Hydrofluoric acid and compounds:
Patents, 1107, 1432, 1886.
- Hydrogen peroxide:
Patents, 914, 987.
- Hydroxyanthraquinone sulphonie acid:
Patent, 1507a.
- "Hygrol."
Patent, 1502.

I

- India ink. *See* Chinese ink.
- India wood:
Patents, 1569, 1571, 1603.
- Indicators, 157, 172, 547-548.
Patent, 1904.
- Indigo:
Patents, 765, 1118, 1146, 1167, 1199, 1459, 1476, 1510, 1571, 1573, 1580, 1587, 1596, 1612, 1730, 1787, 1969, 1978, 2077.
- Indigotin:
Patents, 1025, 1942.
- Indo-phenol-thiosulphates:
Patent, 1419.
- Indulin:
Patents, 1026, 1532, 1764.
- Ink in general, 11, 34, 72, 85, 124, 124a, 138, 143, 186, 192, 203, 222, 292, 307, 344, 348, 389, 395, 419-421, 439, 461, 569, 615, 718.
- Ink, Etymology, 694, 717.
- Ink crystals, 307.
- Ink-making apparatus:
Patents, 737, 793, 803, 842, 844, 856-858, 873, 874, 1087, 1125, 1130, 1170, 1174, 1207, 1412, 1758, 1849, 1945, 1962, 1998, 2055, 2065, 2066.
- Ink for paper mills, 659.
- Ink pencils, 73, 303, 307, 348, 414, 419, 421, 918a.
Patents, 1070, 1141, 1207a, 1666a, 1685, 1791a, 2112.
- Ink plant of New Granada, 425, 436.

Ink powders and tablets, 72, 100, 142, 192, 222, 273, 307, 389, 419, 421, 650, 720.

Patents, 771, 811, 824, 877, 949, 981, 982, 1021-1023, 1032, 1138, 1173, 1176, 1204, 1212, 1249, 1320, 1329, 1363, 1529, 1535, 1565, 1594, 1613, 1624, 1670, 1675, 1682, 1686, 1688, 1720, 1748, 1762, 1861a-1862, 1875, 1881, 1936, 1957, 1997, 2028, 2126.

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Patents, 768, 847, 912a-914, 929, 932a-932b, 933, 947, 963, 987, 1024, 1026a, 1309a, 1385a, 1649, 1656, 1673, 1886, 1950.

Ink sticks:

Patents, 932, 988, 1364, 1540, 1939.

Intaglio ink:

Patents, 921, 948, 1124, 1469, 1528.

Iodine and iodides:

Patents, 756, 1060, 1444, 1498, 1503, 1607, 1662.

Iodine numbers of oils, 588.

Iron (Acetic):

Patent, 1252.

Iron chlorate:

Patent, 1444.

Iron chloride:

Patents, 839, 1050, 1252, 1445, 1464, 1730, 2030.

Iron filings:

Patents, 750, 1266.

Iron nitrate:

Patents, 836, 1048, 1558, 1606.

Iron oxides:

Patents, 785, 909, 999a, 1462, 1729, 1968, 1986, 2044, 2045, 2063, 2076, 2089, 2091, 2107, 2108.

Iron salts. *See* Tannins, galls, and iron salts, and names of individual iron salts.

Iron sulphate:

Patents, 742, 765, 791, 809, 811, 827, 895, 1004, 1025, 1032, 1034, 1041, 1074, 1082, 1119, 1167, 1181, 1199, 1237, 1281, 1299, 1320, 1334, 1337, 1344, 1377, 1392, 1408, 1429, 1433, 1565, 1567, 1569, 1571, 1578, 1580, 1583, 1592, 1612, 1613, 1615, 1617, 1783, 1873, 1942, 1969, 1978, 1989, 1997, 2081.

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Patent, 1246.

Isinglass:

Patents, 1103, 1249.

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Karak-Kailou extract, 1602.

Kerosene:

Patents, 794, 800, 851, 852, 903, 995, 1307, 1913.

Ketons:

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Kieselguhr:

Patent, 1856.

Krais's method, 212.

L

Lactic acid and lactates:

Patents, 981, 1529, 1541, 2075.

Lakes:

Patents, 1351, 1457.

Lampblack, Improved process for absorption:

Patents, 1719b, 1884.

Lampblack, Manufacture. *See* Carbon black and lampblack.

Lanolin:

Patent, 890.

Lantern slides, Ink for:

Patent, 1523.

Lead compounds:

Patents, 739, 866, 926, 1018, 1031, 1114, 1126, 1254, 1282, 1284, 1330, 1342, 1361, 1395, 1584, 1585, 1618, 1691a, 1787, 1839, 1912, 2056.

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Light, Effect on pigments, 1, 212, 650.

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Lineolates:

Patent, 1018.

Linseed oil:

Patents, 797, 817, 819, 825, 837, 839, 926, 932d, 949b, 951, 1031, 1033, 1112, 1149, 1156, 1208, 1217, 1241, 1305, 1328, 1333, 1342, 1348, 1365, 1370, 1381, 1395, 1411, 1446, 1450, 1481, 1483, 1491, 1510, 1570, 1580, 1584, 1585, 1590, 1591, 1617, 1621, 1691a, 1779, 1781, 1826, 1839, 1970, 1971, 2009, 2012, 2016, 2037, 2056, 2101.

Lithographic ink, 2, 29, 58, 67, 69-71, 100, 115, 116, 124, 124a, 209, 228, 229, 307, 321, 344, 348, 379, 439, 503, 516, 517, 573, 577, 665.

Patents, 827, 849, 859, 861, 862, 892, 896, 905, 996, 1036, 1084, 1098, 1099, 1136, 1160, 1183, 1298, 1300, 1331, 1349, 1350, 1424, 1446, 1468, 1539, 1542, 1548, 1560, 1586, 1687, 1701, 1718, 1722, 1734, 1740, 1745a, 1751, 1785, 1786, 1803, 1804, 1816, 1824, 1830, 1843, 1848, 1867, 1879, 1915, 1941, 1961, 1973, 2016, 2049, 2062, 2102, 2105.

Lithographic ink, Reduction:

Patent, 1826.

Lithographic ink varnish:

Patents, 946a, 1356, 1723a, 2037.

Logwood:

Patents, 750, 754, 761, 808, 818, 976, 982, 1040, 1046, 1068, 1077, 1082, 1102, 1109, 1173, 1198, 1199, 1237, 1276, 1344, 1377, 1431, 1445, 1535, 1567, 1580, 1583, 1604, 1605, 1613, 1650, 1668, 1678, 1730, 1780, 1789, 1933, 1936, 1978, 1997, 2027.

M

Madder:

Patents, 1117, 1580, 1612, 1969.

Magnesium compounds:

Patents, 925, 973, 1334, 1379, 1432, 1470, 1475, 1477, 1828, 1858, 1861a, 1912, 1932, 1968, 1971, 2081, 2083, 2122.

Magnesium-platino-cyanide:

Patents, 1309, 2111.

Malt liquor:

Patent, 1082.

Maltha:

Patents, 859, 1331, 1914.

Manganese compounds:

Patents, 800, 828, 837, 987, 1067, 1342, 1345, 1384, 1433, 1456, 1559, 1560, 1618, 1781, 1817, 2009, 2010, 2013, 2030, 2034. *See also* Pyrolusite.

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314, 415, 421, 439, 475, 645. *See also* Forgeries;

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Patents, 756, 867, 868, 901, 906, 950a-951, 980, 999, 1083, 1120, 1141, 1152, 1154, 1162, 1218, 1245, 1246, 1256, 1274, 1275, 1294, 1311, 1320, 1323, 1357, 1414a, 1459, 1557, 1572, 1576, 1621, 1622, 1625, 1669, 1719c, 1764, 1976, 2020, 2032. *See also* Writing ink (Indelible).

Marking ink, Testing, 559, 560.
 Marking ink (Delible):
 Patent, 1377.
 Marking ink for bales:
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 Marking ink for brake linings:
 Patent, 953g.
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 Patent, 1027a.
 Medical uses of ink, 74, 159.
 Patents, 1633, 1695. *See also* Printers' ink (Medicated and antiseptic).
 Mercury chloride:
 Patents, 1068, 1102.
 Mercury iodide:
 Patents, 1498, 1503.
 Mercury sulphide:
 Patent, 2099.
 Metallic inks, 207, 678.
 Patents, 753, 840, 878, 961, 1011, 1016, 1019, 1027, 1169, 1219, 1339, 1368-1370, 1376, 1380, 1382, 1384, 1397, 1416, 1898, 1943, 1944, 1948. *See also* Gold ink; Silver ink; Aluminium ink; Bronze ink.
 Metals, Ink for. *See* Writing ink for metals; Printers' ink for metals.
 Methyl salicylate:
 Patent, 980.
 Methylanthragallol, 43, 78.
 Mica:
 Patents, 1440, 1813.
 Microscope (Color), 460. *See also* Pigments, Microscopy.
 Microscopy, Ink in, 206.
 Milk, Use in printers' ink:
 Patent, 912.
 Mimeograph ink. *See* Duplicating machine ink.
 Mineral earth:
 Patents, 1042, 1290, 1801.
 Mineral oils:
 Patents, 749, 826, 861, 862, 897, 932c, 962, 971, 973, 990, 998, 1013, 1095, 1104, 1110, 1158, 1287, 1338, 1375, 1423, 1456, 1458, 1480, 1484, 1566, 1818, 1832, 1847, 1851, 1864, 1868a, 1896, 1915, 1919, 1932, 1965, 1981, 2034, 2038-2040, 2073, 2106. *See also* names of oils, as Paraffin oil.
 Mirbane:
 Patents, 999, 1949.
 Molasses:
 Patents, 777, 1064, 1372, 1584, 1615, 1650, 1667, 1787, 1891, 2004.
 Molybdates:
 Patent, 1012.
 Mordants, 57a.
 Patents, 1290a.
 Moving picture films, Ink for:
 Patent, 977a.

N

Naphtha:
 Patents, 918, 1131, 1282, 1307, 1351.
 Napthoic acid:
 Patent, 2096.
 Nickel compounds:
 Patents, 1154, 1321, 1397, 2013.
 Nigrosin:
 Patents, 887, 901, 956, 999, 1362, 1388, 1471, 1479, 1870, 1928.
 Nitric acid:
 Patents, 750, 772, 1361.

Non-corrosive ink, 28, 317, 420, 533.
 Patents, 780, 816, 988a, 1066, 1097, 1128, 1442, 1536, 1571, 1603, 1604, 1618, 1705, 1972, 1997a, 2015.

O

Oils, Drying of:
 Patent, 1226.
 Oils (Sulphated):
 Patents, 919, 920, 948, 957, 964, 988d, 1015, 1487, 1515, 1737, 1846, 1903, 1924, 1925, 1946. *See also* Turkey-red oil.
 Oleic acid and oleates:
 Patents, 865, 887, 906a, 932d, 1340, 1341, 1597, 1734, 1745a, 1830, 1851, 1879.
 Olive oil:
 Patents, 825, 1745a, 1971.
 Orcanin:
 Patent, 2011.
 Orchil:
 Patents, 774, 1293.
 Ortho-nitrophenylpropionic acid:
 Patent, 1245.
 Ox-gall:
 Patents, 758, 1436, 1474, 1545, 1821.
 Oxalic acid and oxalates:
 Patents, 807, 870, 879, 902, 956, 977, 987, 1012, 1176, 1237, 1343, 1533, 1575, 2025, 2126.
 Oxymethyl compounds, 44, 92.
 Oyster shells (ground):
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Palm oil:
 Patent, 854.
 Paper, Relation of ink to, 204, 224, 226, 289, 290, 324, 349, 378, 401, 465, 530, 660, 700, 722.
 Patent, 1842.
 Paper (Metal surface):
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 Paraffin:
 Patents, 906, 918a, 1027a, 1298, 1509, 1543, 1814, 1817, 1820, 2005.
 Paraffin oil:
 Patents, 1261, 1771, 1774.
 Paste and concentrated ink, 222, 307.
 Patents, 805, 1025, 1668, 1671, 1678, 1712, 1854a, 1942, 2003, 2017.
 Peat:
 Patents, 1208, 1511, 1517, 1544, 1746, 1850, 2053.
 Petroleum. *See* Mineral oils.
 Petrolene wax:
 Patent, 749.
 Pharmacists' ink, 570.
 Phenol. *See* Carboic acid.
 Phosphoric acid and phosphates:
 Patents, 937, 996, 1004, 1024, 1099, 1101, 1606, 1751, 1867, 1941, 1950, 1961, 1997.
 Phosphorous printing composition for match boxes:
 Patent, 982a.
 Photographic plate, Action of ink on, 166.
 Photographic tests, 579, 652.
 Photo-mechanical process ink, 627, 705.
 Patents, 1315, 1394, 1422, 1506.
 Pigments, Effect of light. *See* Light, Effect of pigments.
 Pigments, Microscopy, 342. *See also* Microscope (Color).
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- Pigments and colors, Manufacture, 161, 640.
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- Pilewort juice:
 Patent, 1360.
- Pine bark:
 Patent, 2054.
- Pistache extract:
 Patent, 1752.
- Plaster of paris:
 Patent, 2099.
- Platinum compounds:
 Patents, 1071, 1265, 1439, 1773.
- Playing card ink:
 Patents, 1033, 1354.
- Poisons in ink, 5, 139, 376, 383, 433, 727.
- Polyglycerins:
 Patents, 1475a, 1826a, 1826b.
- Postage stamp ink:
 Patents, 751, 1959, 2011.
- Potassium carbonate:
 Patents, 1068, 1591, 1618.
- Potassium chlorate:
 Patents, 866, 1154, 1228, 1985.
- Potassium chloride:
 Patent, 1771.
- Potassium cyanide:
 Patents, 761, 1060, 1120, 1571.
- Potassium hydroxide:
 Patents, 1243, 1293, 1393, 1479, 1580, 2083.
- Potassium nitrate:
 Patents, 914, 1318, 1618.
- Potassium phosphosphate:
 Patent, 996.
- Potassium sulphate:
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- Printers' ink:
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 Adhesives. Patent, 1489.
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Patent, 1831.

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Patent, 1831.

Writing ink for waxed paper:

Patent, 1831.

Writing ink for wood:

Patent, 1466.

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Patent, 1031.

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